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VOL. XVII. NO. 24

DEC. 15, 1889.

PEACE ON EARTH
GOOD WILL TOWARD MEN

CLEANING
IN

BEE CULTURE

DEVOTED
TO
BEEKEEPING

& HOME INTERESTS.

MEDINA, OHIO
BY
A. ROOT

TERMS, ONE DOLLAR PER YEAR.

FRANKLIN, DUNDEE, N.Y.

Discounts to those Who Order Goods for Next Season's use Now.

According to our usual custom, we offer the following discounts for early orders. The reasons for this are many, and the reasons why you should take advantage of our offer are many more. Our main reason for making the offer is to divert as much as possible of the trade out of the very crowded months of the spring into the fall and winter, and thus equalize business as much as possible. If you know pretty well a large part of your next spring's needs, you should by all means anticipate these needs for these reasons, and many more that might be named.

1. It is to your profit, if you have the money to invest, both in the first cost of the goods and in the economy in preparing them for use. You can nail your stuff together more economically in the winter time, when there is not much else to do, than at any other time. Hives painted in the winter will become thoroughly dry by the time you are ready to use them, and will last much longer.

2. By anticipating your needs you can give the goods ample time to reach you by freight. Time and again the past season, customers have sent large orders for goods by express, and said they knew the charges would be high, but they could not wait for freight; they "must have the goods at once." These high charges might have been saved by a little forethought.

3. By ordering early you avoid the danger and worry of having your orders delayed, and the risk of losing a large part of your honey crop thereby. The past season, as near as we have been able to learn, all supply-dealers were more or less behind on their orders. This is no more than should be expected with such an unusual demand. Our goods, from their nature, being bulky, it is manifestly impossible to stock up sufficiently to meet such a demand, and it is also impossible to meet the demand by extra help and machinery, because competent help can not be had in a day, and the extra work must necessarily be of a poor quality. The easiest and most sensible way out of the difficulty is for you who know your needs to have them supplied ahead; and if you haven't looked far enough, and should want more goods in the spring in a hurry, we will try to remember how you helped us out, and will in return give you as prompt attention as possible.

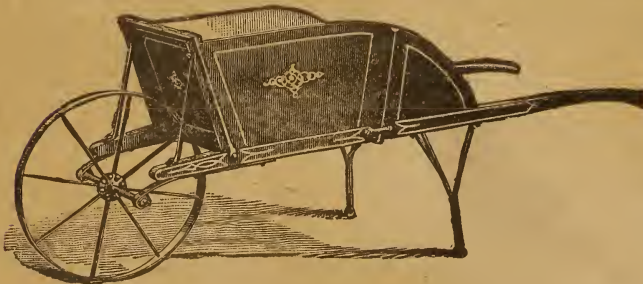
We have decided on the following discounts, which are sufficiently liberal to make it a profitable investment for you, and the discounts will apply to every thing in our catalogue ordered for next season's use. They can not, of course, apply to large orders for counter goods or honey-packages; but if only a few of them are included with an order for hives, etc., then the discount may be taken from the whole bill.

Up to Nov. 1st, discount will be 5 per cent. After that date, one per cent a month for each month before March; i. e., 4 per cent in November, 3 per cent in December, 2 per cent in January, and 1 per cent in February. One per cent a month is equal to 12 per cent per annum, and money can be had in most places for 6 and 8 per cent, so that you see that, although our offer is not quite as liberal as formerly, it is still profitable, and we trust that many of you will find it to your advantage to avail yourselves of it. Remember, our discounts for large orders on page 2 of catalogue are applicable in addition to above discounts.

Respectfully,

A. I. ROOT.

OUR DAISY WHEELBARROW.



The springs are oil-tempered with adjustable bearings, so the wheel will always run free. More than all, the wheelbarrows are the nicest job of painting and varnishing, I believe, I ever saw, for a farm implement. They are handsome enough to go around town with, and strong enough to do heavy work; and yet the price of the small size No. 3 is only \$4.00; the larger size, No. 2 is \$4.25. Over 200 sold in 8 months.

A. I. ROOT, Medina, Ohio.

GLEANINGS IN BEE CULTURE.

rs and Others.

postage is not given
paid, on receipt of

else, we are liable
a purchase without
that the bookseller
as he has them for
and he would be the
well as good things
that those who fa-
not be disappoint-
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ks that contain but little matter
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BOOKS, AND OTHER GOOD BOOKS.

8	Bible, good print, neatly bound	25
10	Bunyan's Pilgrim's Progress**	35
6	First Steps for Little Feet. By the author of the Story of the Bible. A better book for young children can not be found in the whole round of literature, and at the same time there can hardly be found a more attractive book. Beautifully bound, and fully illustrated. Price 50c. Two copies will be sold for 75 cents. Postage six cents.	
5	Harmony of the Gospels.	35
3	John Ploughman's Talks and Pictures, by Rev. C. H. Spurgeon*	10
1	Gospel Hymns, consolidated Nos. 1, 2, 3 and 4, words only, cloth, 10c; paper	05
2	Same, board covers	20
5	Same, words and music, small type, board covers	45
10	Same, words and music, board covers	75
3	New Testament in pretty flexible covers	05
5	New Testament, new version, paper cover	10
5	Robinson Crusoe, paper cover	20
15	Story of the Bible**	1 00
	A large book of 700 pages, and 274 illustrations. Will be read by almost every child.	
5	The Christian's Secret of a Happy Life**	25
8	Same in cloth binding	50
	"The Life of Trust," by Geo. Muller**	1 25
1	Ten Nights in a Bar Room, by T. S. Arthur*	05

BOOKS ESPECIALLY FOR BEE-KEEPERS.

As many of the bee-books are sent with other goods by freight or express, incurring no postage, we give prices separately. You will notice, that you can judge of the size of the books very easily by the amount required for postage on each.

		Price without postage.
12	of Bee Culture** Paper	88
15	A B C of Bee Culture** Cloth	1 10
5	A Year Among the Bees, by C. C. Miller**	70
14	Bees and Bee-keeping, by Frank Cheshire, England, Vol. I.**	2 36
21	Same, Vol. II.**	2 79
	or, \$5.25 for the two, postpaid.	
	Bees and Honey, by T. G. Newman	1 00
15	Cook's New Manual** Cloth	1 35
5	Doolittle on Queen Rearing**	95
2	Dzierzon Theory**	10
1	Foul Brood; its management and cure; D. A. Jones**	09
1	Honey-las Food and Medicine	5
10	Langstroth on the Hive and Honey-Bee**	1 40
15	Langstroth Revised, by Ch. Dadant & Son**	1 85
10	Quinby's New Bee-Keeping**	1 40
10	Queen-Rearing, by H. Alley*	1 00
4	Success in Bee Culture, by James Heddon*	46
	The Production of Comb Honey, by W. Z. Huthinson**	25
	The Apiary; or, Bees, Bee-Hives, and Bee Culture, by Geo. Neighbour & Sons, England*	1 75
	British Bee-Keeper's Guide Book, by Thos. Wm. Cowan, Esq., England*	40
3	Merrybarks and His Neighbor, by A. I. Root	25

MISCELLANEOUS HAND-BOOKS.

5	A B C of Carp Culture, **	35
3	A B C of Potato Culture, Terry**	35
	This is T. B. Terry's first and most masterly work. The book has had an enormous sale, and has been reprinted in foreign languages. When we are thoroughly conversant with friend Terry's system of raising potatoes, we shall be ready to handle almost any farm crop successfully. It has 48 pages and 22 illustrations.	
5	An Egg-Farm, Stoddard**	45
	Barn Plans and Out-Buildings*	1 50
	Cranberry Culture, White's	1 25
	Canary Birds; paper, 50c; cloth*	75
	Draining for Profit and Health, Warring	1 50
5	Eclectic Manual of Phonography; Pitman's System; cloth	50

6	Fuller's Practical Forestry*	1 40
10	Farming For Boys*	15

This is one of J. O. Harris' happiest productions, and it seems to me that it ought to make farm-life fascinating to any boy who has any sort of taste for gardening.

10	Fuller's Grape Culturist**	1 40
7	Farm, Gardening, and Seed-Growing**	90

This is by Francis Brill, the veteran seed-grower, and is the only book on gardening that I am aware of that tells how market-gardeners and seed-growers raise and harvest their own seeds. It has 166 pages.

10	Gardening for Pleasure, Henderson*	1 40
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While "Gardening for Profit" is written with a view of making gardening pay, it touches a good deal on the pleasure part; and "Gardening for Pleasure" takes up this matter of beautifying your homes and improving your grounds, without the special point in view of making money out of it. I think most of you will need this if you get "Gardening for Profit." This work has 246 pages and 134 illustrations.

12	Gardening for Profit, new edition**	1 85
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This is a late revision of Peter Henderson's celebrated work. Nothing that has ever before been put in print has done so much toward making market-gardening a science and a fascinating industry. Peter Henderson stands at the head, without question, although we have many other books on these rural employments. If you can get but one book, let it be the above. It has 376 pages and 138 cuts.

	Gardening for Young and Old, Harris**	1 25
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This is Joseph Harris' best and happiest effort. Although it goes over the same ground occupied by Peter Henderson, it particularly emphasizes thorough cultivation of the soil in preparing your ground; and this matter of adapting it to young people as well as to old is brought out in a most happy vein. If your children have any sort of fancy for gardening it will pay you to make them a present of this book. It has 187 pages and 46 engravings.

10	Garden and Farm Topics, Henderson*	75
	Gray's School and Field Book of Botany	1 80

5	Gregory on Cabbages; paper*	25
5	Gregory on Squashes; paper*	25
5	Gregory on Onions; paper*	25

The above three books, by our friend Gregory, are all valuable. The book on squashes especially is good reading for almost anybody, whether they raise squashes or not. It strikes at the very foundation of success in almost any kind of business.

10	Household Conveniences	1 40
2	How to Propagate and Grow Fruit, Greer*	25

5	How to Make Candy**	45
10	How to Keep Store*	1 00
2	Injurious Insects, Cook	25

10	Irrigation for the Farm, Garden, and Orchard, Stewart*	1 40
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This book, so far as I am informed, is almost the only work on this matter that is attracting so much interest, especially recently. Using water from springs, brooks, or windmills, to take the place of rain, during our great droughts, is the great problem before us at the present day. The book has 274 pages and 142 cuts.

10	Money in the Garden, Quinn*	1 40
3	Maple Sugar and the Sugar-Bush,**	35

By Prof. A. J. Cook. This was written in the spring of 1887, at my request. As the author has, perhaps, one of the finest sugar-camps in the United States, as well as being an enthusiastic lover of all farm industries, he is better fitted, perhaps, to handle the subject than any other man. The book is written in Prof. Cook's happy style, combining wholesome moral lessons with the latest and best method of managing to get the finest sugar and maple syrup, with the least possible expenditure of cash and labor. Everybody who makes sugar or molasses wants this book. It has 42 pages and 35 cuts.

1	Poultry for Pleasure and Profit**	10
11	Practical Floriculture, Henderson*	1 35
	Peach Culture, Fulton's	1 50

10	Profits in Poultry	10
2	Silk and the Silkworm	10
10	Small-Fruit Culturist, Fuller*	1 40
10	Success in Market-Gardening*	90

This is new book by a real, live, enterprising, successful market-gardener who lives in Arlington, a suburb of Boston, Mass. Friend Rawson has been one of the foremost to make irrigation a practical success, and he now irrigates his grounds by means of a windmill and steam-engine whenever a drought threatens to injure the crops. The book has 208 pages, and is nicely illustrated with 110 engravings.

3	Strawberry Culturist, Fuller*	15
	Talks on Manures*	1 75

This book, by Joseph Harris is, perhaps, the most comprehensive one we have on the subject, and the whole matter is considered by an able writer. It contains 366 pages.

2	The Carpenter's Steel Square and its Uses; Hodgson; Abridged	15
10	The New Agriculture, or the Waters Led Captive	75

2	Treatise on the Horse and his Diseases	10
3	Winter Care of Horses and Cattle	40

This is friend Terry's second book in regard to farm matters, but it is so intimately connected with his potato-book that it reads almost like a sequel to it. If you have only a horse or a cow, I think it will pay you to invest in the book: It has 42 pages, and 4 cuts.

8	What to Do, and How to be Happy While Doing It, by A. I. Root	50
3	Wood's Common Objects of the Microscope**	47

Address your orders to

A. I. ROOT, Medina, Ohio

WINTER PRICES

We will, until March 1st, 1890, make the usual *D* words, furnish **SAME GOODS at SAME PRICES** as are

We Manufacture a Full Line of

Bee-Keepers' Supplies

And shall be pleased to furnish **ESTIMATES** on

Send for large *Illustrated Price List*, mailed free

THE W. T. FALCONE & M

Jamestown

Mention GLEANINGS.

RERUM COGNOSCERE CAUSAS,

To know the Causes of Things, is the key to Success in any industry. If you wish to succeed in the **Bee Business**, you must read and become acquainted with the most Successful Methods of Bee-Management and Honey-Production.

LANGSTROTH'S WORK,

REVISED BY DADANT,

Contains the result of **practical experience** with Bees. It gives the Physiology of the Bee, with numerous **Quotations** from the latest Scientific Writers, the Description of the **best Hives**, Directions for the Proper Management and Handling of Bees; the most **Practical Methods of Queen-Rearing, Swarming** (Natural and Artificial), with controlling methods; instructions on Establishing Apiaries, Transferring, Shipping, Mailing, Feeding, Wintering; the best methods of producing **Comb and Extracted Honey**, the Handling and Harvesting of Honey, the Making of Comb Foundation, etc., etc.

The instructions for the **Rendering of Beeswax** are alone worth the price of the Book, to many bee-keepers who waste a part of their wax in rendering it.

This book, "the most complete ever published," is shortly to be published in the French, Italian, and German Languages, by Practical European Apirists. It is highly recommended by all publishers of Bee-Literature in the Old World as well as in the New.

Cloth Binding, 550 Pages, 199 Engravings, 19 Full-Page Plates. Gilt front and back. This book is an Ornament to any Library.

Price: By Express, \$1.85. By mail, prepaid, \$2.00. Special prices to Dealers who wish to advertise it in their circulars.

We also offer for Sale, 20,000 Lbs. of **Honey**, of our crop of 1889; 25 **Tons of Comb Foundation**, Smokers, Bee-Veils of Imported Material, etc. Send for Circular. Address

CHAS. DADANT & SON,
Hamilton, Hancock Co., Illinois.

In responding to this advertisement mention GLEANINGS.

BEE-HIVES, SECTIONS, ETC.

We are now selling our No. 1 V-groove sections, in lots of 500, at \$3.00 per 1000; No. 2 sections at \$2.00 per 1000. For price of Italian queens, foundation, smokers, etc., send for price list.

J. STAUFFER & SONS,

Successors to B. J. Miller & Co.,

Nappanee, Ind.

In responding to this advertisement mention GLEANINGS.

TAKE NOTICE!

BEFORE placing your Orders for **SUPPLIES**, write for prices on One-Piece Basswood Sections, Bee-Hives, Shipping-Crates, Frames, Foundation, Smokers, etc. Address

R. H. SCHMIDT & CO.,

NEW LONDON, Waupaca Co., WIS.

In responding to this advertisement mention GLEANINGS.

Bee-Keepers & Supply-Dealers, Please Take Notice.

We will allow a heavy discount this fall and winter on all orders received for supplies. Estimates gladly furnished, and correspondence solicited.

Our new price list will be ready about Dec. 1st. Send for it.

A. F. STAUFFER & CO.,

Mention this paper.

Sterling, Ill.

HOME EMPLOYMENT. — AGENTS wanted everywhere, for the **HOME JOURNAL**—a grand family paper at \$1 a year. *Big cash premiums.* Sample FREE. THOS. G. NEWMAN & SON, 923 & 925 West Madison Street, CHICAGO, ILLS.

In responding to this advertisement mention GLEANINGS.

PASTEBOARD BOXES.

Or Cartons, for One-Pound Sections.



Bee-keepers are realizing more and more the value of these cartons for putting their comb honey in marketable shape. Other articles of home consumption are put up in a new attractive way, and in shar to be handed to the customer, and carried safely without wrapping. Why not sections of comb honey, especially when the cost of the boxes is so low?

TABLE OF PRICES OF 1-LB. SECTION CARTONS.

Name or designation.	Price of 1	25	100	500	1000
1-lb. carton, plain.....	2	20	.60	2.75	5.00
1-lb. carton, printed one side, name and address.....			.90	3.50	6.00
1-lb. carton, printed on both sides, name and address.....			1.00	3.75	6.50
1-lb. carton, with lithograph label, one side.....	3	.30	1.00	4.50	8.50
1-lb. carton, with lithograph label on both sides.....	3	40	1.30	6.25	12.00
1-lb. carton, with lithograph label one side, name printed.....			1.30	5.25	9.50
1-lb. carton, with lithograph label printed with name on both sides.			1.70	7.25	13.00
Lithograph labels, 2 designs, for 1-lb. cartons.....			.35	1.60	3.00

If sent by mail, postage will be 2 cts. each; or in lots of 25 or more, 1 cent each. All the above have tape handles. Price, without tape handles, 5c per 100, or 75c per 1000 less. The quality of the boxes is fair, being made of strawboard, plated outside. If more than 1000 are wanted, write for prices.

A. I. ROOT, MEDINA, O.

Engines & Boilers.

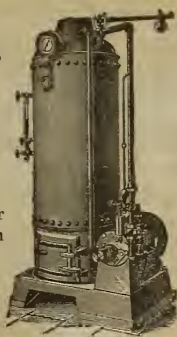
Complete Outfit, or
Engine Alone.

The Best and Most Sub-
stantial Engine Made.

Fully guaranteed. Send for
circular and price list. Mention
this paper.

MEDINA ENGINE CO.,

20tfdb Medina, Ohio.



FOR FOLDING PAPER BOXES send to
21-8db A. O. CRAWFORD, S. Weymouth, Mass.

APIARIAN SUPPLIES CHEAP.

BASSWOOD V-GROOVE SECTIONS, \$2.75 to \$3.75
PER M. SHIPPING-CASES VERY LOW.

SEND FOR PRICES.

GOODSELL & WOODWORTH MFG. CO.,
3tfdb ROCK FALLS, ILLINOIS.

13 In responding to this advertisement mention GLEANINGS.

BEEES

SEND for a free sample copy of the
BEE JOURNAL—16-page Weekly
at \$1 a year—the oldest, largest and
cheapest Weekly bee-paper. Address
16tfdb BEE JOURNAL, Chicago, Ill.

THE BEE-KEEPERS' REVIEW.

A 50-cent monthly that gives the cream of apicul-
tural literature; points out errors and fallacious
ideas; and gives, each month, the views of leading
bee-keepers upon some special topic. Three sam-
ples free.

W. Z. HUTCHINSON, Flint, Mich.

13 In responding to this advertisement mention GLEANINGS.

Bees AND Poultry

The Canadian Bee Journal and Poultry Weekly is
the best paper extant devoted to these specialties.
24 pages, WEEKLY, at \$1.00 per year. Live, prac-
tical, interesting. Nothing stale in its columns.
Specimen copies free. Subscribers paying in ad-
vance are entitled to two insertions of a five-line
adv't (40 words) in the Exchange and Mart column.
THE D. A. JONES CO., BEETON, ONTARIO, CAN.

SAVE FREIGHT.

BUY YOUR SUPPLIES NEAR HOME AND
SAVE FREIGHT.

We carry a complete stock of Apiarian Supplies.
Our motto: Good goods and low prices. Illustrated
catalogue for your name on a postal card.

R. B. LEAHY & CO., Higginsville, Mo.

13 In responding to this advertisement mention GLEANINGS.

MUTH'S

HONEY-EXTRACTOR.

SQUARE GLASS HONEY-JARS,

TIN BUCKETS, BEE-HIVES,

HONEY-SECTIONS, &c., &c.

PERFECTION COLD-BLAST SMOKERS.

Apply to CHAS. F. MUTH & SON,

CINCINNATI, O.

P. S.—Send 10-cent stamp for "Practical Hints to
Bee-Keepers." (Mention Gleanings.) 1tfdb

The Ullmann & Philpott Mfg. Co.,

89-93 MERWIN ST., CLEVELAND, O.

Manufacturers of Fine Black and Colored

PRINTING INKS.

This Journal is Printed with our Inks.
2422d

TILLINGHAST'S NEW

FLORAL ALBUM

Is not a seed catalogue but a magnificent
volume containing 270 Elegantly Colored
Plates, making the most Beautiful and
Extensive Collection of Floral Lithographs
ever published. The first copy cost over
\$2000.00. I will mail one copy for intro-
duction on receipt of 50 cents.

ISAAC F. TILLINGHAST, La Plume, Pa.

13 In responding to this advertisement mention GLEANINGS.

SECTIONS and FOUNDATION.

WHOLESALE AND RETAIL.

All supplies cheap. Send for new price list free.
Japanese buckwheat, 75 cts. per bushel.

22tfdb W. D. SOPER,
Box 1473. Jackson, Mich.

YOUNG Italian Queens by Return Mail.

Untested, \$1.00. Tested, \$1.50. Albinos, un-
tested, \$1.00. Tested, \$1.50.

J. W. TAYLOR, Ozan, Hempstead Co., Ark.

FOR SALE!

One of the best located apiaries in Iowa, 150
Colonies, in Langstroth hives. Handsome two-
story frame residence. Twenty acres land. All
necessary out-buildings. Also fine flock White Wy-
andottes. Two cows, nice span driving horses. Never
a failure of honey. White clover, basswood, gold-
en-rod, buckwheat, etc. House nearly new, nicely
decorated paper, a very pleasant home. Price
\$2500.

C. A. SAYRE,

23tfdb Sargent, Floyd Co., Iowa.

13 In responding to this advertisement mention GLEANINGS.

ECES, \$1.00 PER 13.

From White Leghorns and White Plymouth Rocks.
Also a few cockerels, cheap. C. W. CHAPMAN,
Reference, A. I. Root. Medina, O.

BEE-HIVES, SECTIONS, ETC.

WE make the best Bee-Hives, Shipping-Crates,
Sections, etc., in the world, and sell them the
cheapest. We are offering our choicest white one-
piece 4½x4½ sections, in lots of 500, at \$3.50 per 1000.

13 Parties wanting more, should write for spe-
cial prices. No. 2 sections, \$2.00 per 1000. Cata-
logues free, but sent only when ordered. 1tfdb

G. B. LEWIS & CO., Watertown, Wis.

13 In responding to this advertisement mention GLEANINGS.

Ho! Ye in Dixie Land!

LEARN SOMETHING NEW

Of Interest to You in my New 1890 Catalogue

MAILED IN DECEMBER.

Enlarged, and prices reduced. It gives LOW
SPECIAL FREIGHT RATES to many Southern
points, especially to points in TEXAS.

Southern Bee-Keepers, Send for it NOW.

J. M. JENKINS, - Wetumpka, Ala.

13 In responding to this advertisement mention GLEANINGS.

HONEY COLUMN.

CITY MARKETS.

NEW YORK.—*Honey*.—Our market has been inactive for the past month, and the demand for comb honey has been light in consequence of the unusual mild weather, with prices gradually declining. We quote: Fancy white 1-lb. sections, 13@14; 2 lbs., 12; off grades, 1 lbs., 11@12; 2 lbs., 10@11; buckwheat, 1 lb., 10@11; 2 lbs., 9. Extracted is in good demand at the following prices: White clover and basswood, 7½; California, 7½; orange bloom, 8@8½. Buckwheat, 6; Southern strained, 70@75 per gallon.

Dec. 6.

HILDRETH BROS. & SEGELKEN,
28 and 30 West Broadway, N. Y.

CHICAGO.—*Honey*.—Trade is slow at this writing, and the last week's sales are not as good as those of the preceding week. The falling off in sales during December compared with same time in November, is forty per cent. Prices are nominal, at 12@13 for best grades, to 14 for fancy in cartons; off grades, 10; dark, 8@10; extracted, 6, 7, and 8. *Beeswax*, 25.

Dec. 9.

R. A. BURNETT,
161 South Water St., Chicago, Ill.

KANSAS CITY.—*Honey*.—Honey selling slow; don't look for much improvement in the demand until we get colder weather. We quote: White 1-lb. sections, 13@14; amber, 10@12; white, 2 lb., 12@13; amber, 10@11. Extracted, white, 7@8; amber, 5@6. *Beeswax*, 22.

Dec. 9.

HAMBLIN & BEARSS,
514 Walnut St., Kansas City, Mo.

COLUMBUS.—*Honey*.—Market on honey dull. White clover brings 14@15 for fair grade. Nothing but first-class goods find sale. Extracted honey meets with ready sale at 8@9. Market about cleaned up on that class of goods. EARLE CLICKENGER,

Dec. 10.

Columbus, O.

BOSTON.—*Honey*.—We quote fancy 1-lb. white clover honey, 16@17; fair to good, 15@16; 2 lbs., 15@16. *Beeswax*, 24.

Dec. 9.

BLAKE & RIPLEY,
57 Chatham St., Boston, Mass.

ALBANY.—*Honey*.—Market quiet and unchanged. Clover, 12@15; buckwheat, 10@11; mixed, 10@12. Extracted, clover, 8@10; buckwheat, 6@7.

Dec. 10.

H. R. WRIGHT, Albany, N. Y.

CLEVELAND.—*Honey*.—Market easy. Best white 1-lb. sections sell slowly at 15@17c.

Dec. 9.

A. C. KENDEL, Cleveland, O.

DETROIT.—*Honey*.—Comb honey dull and lower; now quoted at 12@14. Extracted, 7@8. *Beeswax* firm at 24@25.

Dec. 9.

M. H. HUNT,
Bell Branch, Mich.

NEW YORK.—*Honey*.—White comb honey, paper cartons, 13c. Market flooded.

Dec. 10.

THURBER, WHYLAND & Co.,
New York City.

FOR SALE.—White basswood honey, 8 cts. per lb.; dark, 6 cts. My honey is all put up in barrels, kegs, and pails, made of basswood lumber. The pails are painted, and have bails. AUSTIN DEXTER,
Boscobel, Wis.

FOR SALE.—About 2500 lbs. No 1 clover honey in 60-lb. cans. F. O. B. here at \$4.80 per can, boxed singly. In kegs or large lots, less. R. L. TUCKER,
Nevada, Vernon Co., Mo.

FOR SALE.—I still have about 4000 lbs. choice extracted white-clover honey. I have also about as much nice Spanish-needle honey, which I consider as fine as the best goldenrod. Write me for price list. EMIL J. BAXTER, Nauvoo, Hancock Co., Ill.

FOR SALE.—Choice clover comb honey in 14-oz. sections, and glass cases of 12 lbs. each, net, 2 cases, 14 cts. per lb.; 12 cases, 13 cts. Amber honey, same shape, one cent less. Cheaper packages, ¾ ct. less. Extracted, 60-lb. cans, white, \$4.80; amber, \$4.20 per can. Safe arrival guaranteed.

OLIVER FOSTER, Mt. Vernon, Ia.

A BARGAIN.—Sixteen colonies of hybrid bees in L. hives, in good condition. Delivered at Horn Lake, for \$35.00, or offers. Correspondence solicited. J. R. ELMORE,
Horn Lake, Desoto Co., Miss.

WANTED.—To exchange Spider plant, Catnip seed, Turner, Mammoth-cluster raspberry, plants, for Japanese buckwheat, bee-books, or offers. G. M. WHITFORD, Arlington, Neb.

SPECIAL NOTICES.

DISCOUNTS FOR EARLY ORDERS.

Remember that the 3 per cent discount for early orders is changed to 2 per cent Jan. 1, 1890.

JAPANESE BUCKWHEAT.

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MANUAL OF PHONOGRAPHY, AND OTHER GOOD BOOKS.

It is not alone garden-seeds, but a good many other things, that lie on our shelves and get out of date, if we don't look out. By "we" I mean us store-keepers. We found in our vault, where we keep our books, 20 copies of the "Eclectic Manual of Phonography," by Elias Longley. Our stenographer says these are admirable helps in this branch of phonography, which is known the world over as Pitmanic. Now, the price of the books is \$1.00, and I think they cost us 75 cts.; but if anybody wants one he can have it for 40 cts. If sent by mail, 6 cts. extra. The book was published in 1882.

We also have 40 copies of W. W. Rawson's little book, "Celery and its Cultivation." We regard it as the best authority, and I have taken pains to read carefully all of the pamphlets that have been published. By some mistake they received only an editorial notice, and never got into our catalogue. The price is 15 cts.; by mail, 16. It tells all about putting up celery for winter.

There is just one more book that does not sell—Household Conveniences—published by O. Judd & Co. The price is \$1.40; by mail, \$1.50. The book is full of valuable illustrations, and it ought to make a beautiful present for any housekeeper. Do you know any housekeepers around in your neighborhood? Well, you may have the book for an even dollar; by mail, 10 cts. extra.



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WORKING FOR COMB HONEY.

DOOLITTLE ANSWERS A PECULIAR QUESTION.

THE following has been sent in to me as a text from which to write an article for GLEANINGS: "How to manage a home apiary of 50 colonies for comb honey, in connection with another business, said business to occupy the apiarist's time from 7 A. M. to 6 P. M. Increase desired, 30 colonies, or the apiary to contain 80 in the fall. Hives, eight-frame Simplicity." This is a good deal of ground for me to cover in the space allotted for one article, but I will do the best I can. We are also to understand that the source from which a surplus of honey is gathered is only white clover and heart's-ease, other flowers yielding enough for brood-rearing in good years. Now, we will suppose these bees to be in fair condition in early spring, which, according to my definition of that term, would be about 10 colonies extra good, 20 colonies from good to medium, and the remaining 20 from medium to weak. As white clover is the thing we are to keep our eyes on for the main crop of white honey, we must have our bees ready for it as early as the tenth to the fifteenth of June, or we lose this part of our field. Considering this, I should, in early spring, shut the bees of all the colonies, except the 10 strongest ones, on as few frames as they would cover, allowing none of those so contracted to have more than five combs, while the very poorest would probably not have over two. This contraction is done by the use of a division-board; and if, in addition to this, we have chaff or sawdust cushions to slip down and fill the space behind the division-boards, we are so much nearer accomplishing our object (a good yield from clover) than we should otherwise be, for the confining of the heat generated by the bees to the space occupied with brood is what gives us much brood

early in the season. As soon as the strongest of these contracted colonies have their five frames filled with brood, take a frame of hatching brood from them and give to the next weaker, and so on till each hive has five frames filled with brood, as you are to give a frame of empty comb each time, to the colony that you take the hatching brood from. If you have been as successful as you should be, when the 10th of June arrives you will have 10 hives in the apiary having 8 frames of brood, for the stronger will have filled their hives by this time, and 40 hives with 5 frames of brood. We will now go to each of 20 hives and take out 3 frames having the most brood in that is the nearest to hatching, being careful not to get the queen on any of these frames, and set them, bees and all, into the other 20 hives which contain only 5 frames each, alternating them with the other frames so the bees will not quarrel. Having this done, we shall find that our apiary now stands, 30 hives full to overflowing with brood, and 20 hives with a queen and two combs full of brood, with bees enough to cover three frames, when the old bees return which we carried to the other 20 hives, which they will do the first pleasant day after we united them with the others. We now give each of these 20 small colonies an empty frame having a starter of comb foundation in it $\frac{1}{2}$ inch wide to keep them busy, which will be filled with worker comb by this small colony, as such colonies will build all worker comb, and do it without any apparent loss of time. The other colonies are to have the sections put on, so that the very first honey which comes from the field can go into them; and it must go into them, if honey is gathered, for the brood below hinders them from putting it elsewhere. As to the surplus arrangement used, I do not think there is very much difference whether a T super is adopted, wide frames, or the Manum, or Heddon case, only

that you use that which is best suited to your hives. If a cap, half-story cover, or hood, as it is variously styled, is used, then I would use one of the three first-named surplus arrangements; while if I used a flat cover I would use something similar to the Heddon case, if not that one.

Having the full colonies all boxed, and the bees well at work in the sections, they should be watched closely, to the end that they do not become crowded for room; for if they do, swarming will be brought on sooner than it otherwise would, and we desire to get the bees started in as many sections as possible before they swarm. As soon as they need more room, tier up the sections, by placing a set of empty sections filled with thin comb foundation on top of the first set (if the questioner used chaff hives, I would say use wide frames and the lateral plan which I have lately given in GLEANINGS), and so keep tiering up as long as the bees show no signs of swarming. When it is expected that they will swarm, the apiarist, when he gets home some night at six o'clock, is to go to such hive as he thinks will soon swarm, and set it from its stand, placing an empty hive in its place, which hive is to contain only five frames having foundation starters in them, *a la* Hutchinson, the rest of the space being contracted with dummies. The surplus arrangement is now to be lifted off the old hive and placed on the new, when all the bees are to be shaken off the brood combs, and out of the old hive, in front of the prepared new hive, into which they will immediately run, when swarming is over with for that hive. The combs of brood are to be taken to the hives having the small colonies in them and given to those which can care for them best, giving none over three combs at a time. In this way keep on till all the colonies are "swarmed," when swarming will be through with for the season, for if properly managed in the heart's-ease bloom they should not swarm thus late in the season. As there will be more brood in the 31 strong colonies than you can put in the 20 weak hives, colonies are to be made from those whose hives were first filled out with brood, by taking one frame with adhering bees from each of 8 hives and setting them all together in one hive, and giving a queen, thus making a strong colony at once by the old plan so often given. In this way you make room for the rest of the brood and obtain the 30 increase desired. As soon as each hive is full of brood, these too are to have sections put on them, so that they may help swell the amount made by the stronger ones. When the harvest of white honey is over, take the dummies out from those hives having only 5 frames in them, and fill out with frames filled with foundation, so that lots of brood can now be reared to work on the heart's-ease later on when the surplus is to be obtained from this source. In this way we secure all the honey possible from the white clover by having the laborers in shape for that harvest; make our increase in a way and at a time so as to interfere the least possible with our crop, and get our bees in good shape for the fall crop and for winter.

Borodino, N. Y., Dec. 4, 1889. G. M. DOOLITTLE.

Very good, old friend. Had not our quest put in so many conditions, we might have differed from you a little; but as it is, I think you have it about right. When I used to keep bees, and could see them only morning, noon, and night, I adopted a good

deal the routine you mention. Where the apiarist can be on hand all the time, I think I would not swarm any of them until they swarmed themselves; but where he can not attend to that, perhaps the best way to avoid swarming is to take it into our own hands, and decide as you suggest.

THE INTERNATIONAL BEE-ASSOCIATION AT BRANTFORD.

ON THE WAY AND WHILE THERE, AS REPORTED BY ERNEST.

WE (myself and better half) started on the evening of the 3d for Brantford. With the other necessary baggage, I took along my Anthony Detective camera that I might take some views of the Falls, and also a view or two of the bee-keepers' convention. I had heard that amateur photographers had experienced some difficulty in getting their instruments over into Canada, even when they were for their own use. Accordingly, I inquired concerning the matter, at the Bureau of Information, at the Erie depot, at Buffalo. Said the agent, "Put on a brazen face, and make no effort to conceal the camera, and I'll guarantee you'll have no trouble."

On arriving at the Suspension Bridge at the Falls, I did as directed, "brazen face" and all. My camera and contents were worth about \$50.00; and the duty, if demanded, would amount to one-fourth, or over \$12.00. The custom-house officer inspected our sachel, and then, glancing at my camera, said, "What do you call that?"

"A camera. It is one I have had a couple of years, and I should like to take some pictures in Canada."

Said he, in a very gentlemanly manner, "It's subject to duty. While I should be glad to make an exception in your case, I am acting under the instructions of the government of Canada."

"Can't I leave it somewhere?"

"Yes," said he, "in the Custom-House office."

"But," I said, "you people will put me to considerable trouble in getting it out again. There is a lot of red tape in this business."

He assured me kindly, that on the presentation of my name on my return I could have it. With some misgivings I accepted what I could not help, and surrendered my instrument into the hands of the officer.

The train pulled out, and ere long we reached Brantford. We went immediately to the Kerby House, where special rates to bee-keepers, at \$1.50, had been secured, the regular price being \$2.00. By way of a parenthesis, I want to say that I have been to several three and four dollar houses, with no better (if as good) accommodations in the United States. Most of the bee-keepers, as a matter of course, took lodgings there.

The first person I met was Frank Macpherson, of the D. A. Jones Co., of Beeton. Frank and I, you know, had a little—well, argument—respecting the place of meeting for the last session of the American Bee As-

sociation; but that did not lessen the friendly grip of the hands, and the cordial greetings.

It was with no little pleasure that I made the personal acquaintance of that scholarly gentleman, Mr. S. Corneil, of Lindsey, and that prince of Canadian honey-exhibitors, Mr. R. McKnight, of Owen Sound.

I met many others, whose faces and names I could not remember, but whose greeting and friendship I appreciated no less.

Contrary to my expectations, there was a large attendance of bee-keepers at all of the sessions. While it was largely local, yet there were a good many from the United States and the more distant points in Canada. The Ontario Bee-Keepers' Association was well represented. The total number in attendance was in the neighborhood of 125; but not all of these were registered members. As a detailed report of the proceedings will appear in the *American Bee Journal* and other journals, I will not attempt to give even a summary of all of the interesting papers and discussions. I will only pick out here and there some of the things as they stick on my memory.

The president's address was a valuable contribution. It rehearsed the year's progress in apiculture, and was full of suggestions. I was sorry that it came close to the adjournment of the session, so that some of the things brought forward might be discussed. Somehow it was overlooked at the next session, for the president was too modest to bring it up himself.

The convention gave rather more attention to the subject of wintering than I thought was necessary or expedient. But one fact I noticed was, that there was less conflicting testimony on the subject than usual, and this is encouraging, for it indicates that this perplexing subject is gradually reaching a satisfactory solution. It was quite generally agreed, that bees *could be* successfully wintered outdoors packed in chaff, and that, while less skill is required, a larger consumption of stores is the result when compared with the indoor plan. Mr. G. Sturgeon, however, of Kincardine, after trying both ways, now uses the Root chaff hives exclusively, and winters very successfully every year; and, if I remember correctly, he said with no larger consumption of stores. As for cellar wintering, sub-earth ventilators were considered a useless expense. If they serve to lower the temperature, they answer a good purpose; but this result could be accomplished cheaper by opening doors or windows at night. It was decided that artificial heat is not only useless, but positively injurious. Roaring in the cellar does not indicate a desirable condition of the bees. [Just how to stop it is not an easy thing to settle. Some interesting tables as to the minimum consumption of stores in cellar wintering were given in a valuable paper by R. McKnight, of Owen Sound. If correct, the rate of consumption per hive while in the cellar is astonishingly low. Corroborating testimony from others present was given.

When the subject of bee-keeping for wom-

en came up, there was not a uniformity of opinion. Considerable stress, however, was laid upon the point that bee-keeping is suitable for women, providing they could now and then call upon the men-folks to assist in the heavier work. The opinion did not seem to prevail that bee-keeping is a light occupation.

Shipping queens was considered by F. H. Macpherson, of the *Canadian Bee Journal*. He emphasized the point of putting up queens a few hours before shipping, and keeping them in the meantime in a dark place. For material for queen-cages, he prefers pine. He also said that too much ventilation is very often given. After Mr. Macpherson's paper, I brought up and explained the Benton cage. The great point in its favor is its almost universal success in shipping queens long distances. Considerable corroborating testimony was brought forward to this effect. Some queens, after a journey of forty days, have been found in most excellent condition, in this cage.

Warm hives, and how best to obtain, was discussed in a very able manner by Mr. S. Corneil. The relative values of packing materials, as determined by careful experiment, was given, and the result was in favor of pulverized cork.

One of the rare treats of the convention was the reading of a paper on the alimentary system or apparatus of the honey-bee, by Prof. Cook. The paper was illustrated by drawings, to which the professor referred frequently. I hope we may be able to present this, or something similar, to our readers, in a short time, accompanied by some good engravings. That most beautiful mechanism, the bee's tongue, and the manner in which it draws up honey under different circumstances is wonderful. It is something that every bee-keeper ought to have more or less knowledge of.

Bee-keeping as a hobby was the topic of a paper by our humble servant. I took the ground that every one needs some recreation. As I have been a rider of many different hobbies, I touched briefly on each, and decided most emphatically upon bee-keeping. In my paper I alluded to the fact that driving a good colt has been one of my hobbies, and that I had ridden this hobby so hard that I have been through a literal runaway on two occasions. After I had finished, Mr. R. L. Taylor took the floor, and made this very neat application: Hobby-horses are good things, but they are dangerous. We should be careful not to let our hobby-horses *run away with us*. He thought many of us would have made more money if we had let hobbies alone and given our whole time to business.

Our friend W. F. Clarke made another application upon hobby-horses, which I thought was far-fetched. He said that his friend A. I. Root was riding a hobby a little too hard over other people, and that was his tobacco hobby in the shape of the Tobacco Column in GLEANINGS. He did not approve of the plan of giving out smokers. He thought Mr. Root was pushing the matter a little too hard. Although a minister of the gospel, Mr. Clarke said that he uses tobacco, and

that he smokes it to the glory of God; and although he at first opposed its use, his brother and a physician advised him to use it, and he says he has since derived great benefit.

President Mason then took the floor, and remarked that a good many tobacco-users are riding their tobacco hobby-horses right in the *very faces* of the people who do not use it; that is, the tobacco-users *compel* other people to breathe in their offensive smoke, and to inhale tobacco odor. This was, he thought, a clear case of riding hobbies over other people. As to the matter of life or death, tobacco or no tobacco, the doctor thought that, if he had got to choose between a prolonged life *with* tobacco, and death and *no* tobacco, he would get ready to die just as soon as he could. He did not exactly approve of giving out smokers as a pledge.

Continued in next issue.

GOLDENROD.

HOW TO GET THE WHITE HONEY, AND GIVE THE BEES THE INFERIOR ARTICLE.

FRIEND ROOT:—On page 815 I mentioned extracting the crop of late summer honey, mostly peach and bitterweed, about Sept. 6th. It was to test what the goldenrod and aster yield would be, with the view, next season, of taking off that crop of second-rate honey in sealed combs, and substituting empty combs for the choice fall crop, then returning the sealed bitterweed combs for the bees to winter on.

On going through, and getting things in shape for winter, I find about as much choice honey in the hives as I extracted of second-rate in September. So it looks as if this late fall crop were worth trying for. If I should extract much of it now, however, I should have to feed back a considerable amount of extracted bitterweed, which is now very thick, and candying. Robbers would be troublesome, and any day may bring a cold snap; so I think they may keep most of what they have. But another season, will it not pay to have the extra combs ready, and try the plan outlined? Keeping the sealed combs of bitterweed honey free from moth depredations will be the chief drawback. I should be glad of some light on this late fall-crop business if any of your Southern readers have tried it.

GETTING RID OF STUBBORN FERTILE WORKERS.

An experience with a colony having a fertile worker may be of some interest. I recently purchased two Italian queens to introduce into two black-hybrid colonies. One was accepted, the other was killed; both were in Peet cages, and escort bees had been taken out before fixing the cages on the combs. Going away to assist a friend in introducing a lot of queens, I left my two to take their chances; and returning I found one dead before the entrance, the other laying. Both hives had had queens up to the time of introducing the new ones. Taking out all brood, unsealed from the hive now queenless, I gave them Italian brood, hoping in this way to get a purely mated queen, as I found the only drones flying were from a choice Italian colony. The bees would not even care for this brood, but carried it out. I then gave another comb, thinking the first might have been chilled. This brood they

raised "*a la worker*," but no queen-cells were started. By this time the few eggs scattered about, sometimes two in a cell, told "what was up." So, to demoralize the whole thing, they were all shaken out in front, and allowed to crawl back, two frames of brood and bees having been inserted. Again no go, when I hit upon this plan: There was a strong colony, not far off, in a two-story hive, both stories full of bees. Making sure their queen was below, I took the upper story and "swapped" it for my fertile-worker colony (one story), which left the bogus queen in the second story of a colony having a queen. Of course, most of the old bees of both hives went back to their respective homes. The stores were about equal. I then gave more Italian brood to my queenless colony, and queen-cells appeared in due time. There was no fighting in either hive.

C. P. COFFIN.

Pontotoc, Miss., Oct. 21, 1889.

McNAY'S TABULATED REPORT

IN REGARD TO THAT LARGE YIELD.

Mr. Root:—In compliance with your request I herewith inclose a tabulated record of our season's extracting, from six apiaries. I trust the table will be understood by referring to my report on page 806, GLEANINGS, Oct. 15, without further explanation.

Date.	Hives.	Total.	Average per colony.	Average from bitterweed.	Per cent increase in colonies.
July 1	4	500	125	25	90
July 8	4	700	175	25	
July 16	4	475	118	25	
July 23	4	200	50	25	
Aug. 3	4	600	150	25	
Aug. 10	4	550	137	25	
Aug. 27	4	800	200	25	
Sept. 13	4	300	75	25	
Sept. 21	4	4625	1156	25	
Sept. 27	4	300	75	25	
Sept. 27	4	5675	1418	58	30
July 1	2	400	200	142	
July 8	2	400	200	142	
July 16	2	630	315	142	
July 23	2	775	387	142	
Aug. 3	2	750	375	142	
Aug. 10	2	600	300	142	
Aug. 27	2	600	300	142	
Sept. 13	2	400	200	142	
Sept. 21	2	6100	1525	34	20
Sept. 27	2	400	200	142	
Sept. 27	2	5400	1350	47	50
July 1	5	250	50	154	
July 8	5	750	150	154	
July 16	5	500	100	154	
July 23	5	500	100	154	
Aug. 3	5	700	140	154	
Aug. 10	5	1400	280	154	
Aug. 27	5	1100	220	154	
Sept. 13	5	450	90	154	
Sept. 21	5	9400	1880	25	80
Sept. 27	5	450	90	154	
Sept. 27	5	12550	2510	50	30

Total, 43,550.
Average 123%.

Mauston, Wis., Dec. 2, 1889.

FRANK McNAY.

BEE-HUNTING IN THE SIERRA NEVADA MOUNTAINS.

BY A SUCCESSFUL BEE-KEEPER.

Continued from last issue.

IN the spring of the year, bees prefer salt to honey; and using salt and water instead of honey, works first rate. Toward the latter part of the season, bees pay no attention to salt, but are crazy after honey. The breeding season is about ended, I suppose, and they have no more need of salt.

Some varieties of trees are more frequented by bees than others. This is owing, probably, to the large cavity these trees contain. In this location most bees construct their hives in sugar pines and firs. Old trees of the fir family are usually dead at the top, and sometimes broken off, caused by winter snows and winds. Trees thus broken off, usually send out a number of young shoots which grow up parallel with the main axis of the tree. Trees that are hollow within, usually give some outward signs of such defect, such as dead tops, the end of the branches dead, etc. When oak-trees are divested of their foliage in the fall of the year, is a good time for hunting bees where oak timber abounds. When saving bees, oak-trees are the best, as they can generally be felled pretty easily. When there is four or five feet of snow on the ground, that is the best time to cut the larger trees, as they do not fall so heavily.

HUNTING BEE-TREES WHEN SNOW IS ON THE GROUND.

I usually have as good success in hunting bees in the winter as in the summer time. When the ground is covered with snow, and the bees come out for a fly-spell, a great many become chilled, or snow-blind, I do not know which, and the snow around the tree is generally covered with dead bees. In running over the mountains in the winter time, on snowshoes, we frequently find bees on the snow. Marking the location, we return some warm day and find the tree. On Jan. 1, 1887, we found and cut a bee-tree. The bees were working on the black alders, in great numbers. I filled five L. frames with brood, and two with honey. That was an immense swarm of bees for that season of the year. I have taken bees out of trees almost every month in the year, and generally have pretty good success.

My method of taking bees from trees is as follows: After getting the tree opened, take all the combs containing brood, and cut each piece of brood so it will fit securely in the frame. With small wire nails, tack securely four small strips on the frames thus: Incline your hive to one side, and set in your frames as soon as filled. When you have all brood and empty comb in the frames, and your hive inclined to one side, so there is no danger of combs tumbling down, you will be ready to put the bees in the hive. Wait until they get clustered together, then lay a piece of cloth underneath them, and, with a small brush, drive all the bees off, causing them to drop on the piece of cloth. Shake the cloth in front of the entrance, and the bees will soon commence to call for their comrades. Put about half of the bees in this way, and the remainder will go in of their own accord. After they have been in there a few days you can remove them to their permanent location;

and if the weather is pleasant, and they have had a chance to fly out, you can take out the frames and remove the small strips, tacked to one side.

DISTANCE BEES GO FOR STORES.

Black bees rarely if ever go over one and a half miles for stores in this mountainous part of California. I suppose that, in a level country, they would go considerably further. In bee-hunting I never tracked black bees over a mile and a half from their habitation. All the wild bees here in the woods are black bees. Some of these bees are wonderful workers too. Bee-trees have been cut here at an elevation of 6000 ft., and some of these have contained upward of 300 lbs. of honey. Large quantities of honey are sometimes taken from wild bees here in these mountains, being the accumulation of several years of gathering. I remember one bee-tree in particular. In the month of July, having some leisure time at my disposal I started out bee-hunting. Having arrived at the place, I found a number of bees working on pennyroyal. I was soon trapping them, and noting their line of flight. In a few moments I had a pretty fair line started up the mountain-side. I had to crawl on my hands and knees quite a distance. The mountain-side was covered with a dense growth of young hazels, deerbrush, flowering dogwood, young firs, and spruces. After wandering about considerably I came across a large dead fir-tree, a regular old patriarch, having withstood the storms of several centuries. After making a careful scrutiny, I observed the bees entering where an old limb had broken off, at a height of about 120 feet from the ground. The tree was about seven feet in diameter. A few days afterward we cut it down; and in felling it it struck a large rock and was mashed all to pieces, throwing bees, honey, and brood in all directions. What few bees were not killed were terribly cross. We had quite a time gathering up comb and honey. The ground around where the tree had burst was covered with it. There must have been nearly 300 pounds of honey, if we could have saved it. Part of it was candied. We did not try to save the bees, too many being killed.

S. L. WATKINS.

Placerville, Cal.

To be continued.

HOW VANKIRK OBTAINED 20 CTS. FOR HIS HONEY.

BUILDING UP A REPUTATION.

FRIEND ROOT:—As I have not time to answer private letters I will ask space to answer some of the questions that my report in GLEANINGS, Sept. 1, has brought. I have been selling honey in our town for about fifteen years, and I have a set of customers that always depend on me for their honey. My price for about a dozen years has been 20 cts. per lb. for choice comb honey, and I have no trouble in getting my entire crop off at this price. It is sometimes higher and lower in our market, but all that buy my honey know that the price is the same, year after year. Choice comb honey has been worth 25 cts. per lb. in our town this present season, and I could have had that price for mine. But if I should raise on my customers when it is scarce I should have to come down when it is plentiful. It is not scarce here, by any means; but the consumption is great-

er than it has ever been since I have been in the business. I sold from the wagon this season from thirteen to nineteen dollars' worth once a week for quite a number of weeks, and canvassed only a very small portion of the town. I run a trip once each week with other produce, and the honey goes along as a "side issue."

Can you sell your honey here at these prices?

This is the main question that I have to answer. I answer, no. There has been so much honey shipped here, of poor quality, that the people will hardly buy at any price. There has been "California honey" sold here that never saw that State, and "Ohio honey" that only passed through the State. Some of our leading bee-men have shipped honey here with their names on the crates that was fair without, and the worst-tasting honey within that I ever sampled. But this is the exception. Dear friends, your honey is just as good as mine, and I could sell thousands of pounds of it for you if it were "Washington Co." honey. I have tried purchasing honey to supply my trade when I was short, but it did not work well, and it wasn't the honey's fault. I once got a small case of very good honey from friend Root to supply a lady customer, but she declared it didn't taste like mine. It is prejudice and conceit, and not so much the fault of your honey. Now, friends, I would gladly help you; but "charity begins at home." I have all the work that I care to have, and once for all I can not handle your honey. Our grocers are nearly all nice men; and if you would try them they might help you out. My experience has been, that it were better to sell at home. If you are a pretty good man, and have pretty good honey, I don't think you will have any trouble in getting it all off before honey comes again. I feel sure that I could do it, and I see no reason why you can not if you will just wake up and arouse your "latent vim." I hardly know how I acquired my reputation; but one thing I do remember: It took patience and hard work.

L. W. VANKIRK.

Washington, Pa., Nov. 21, 1889.

Friend V., we read in the good book that "a good name is rather to be chosen than great riches," and your statement above verifies it.

BEEES UNDER THE BED.

A CHINESE HOUSE-APIARY.

FRIEND ROOT:—I have something a little odd to tell; but in order to tell it well, I must first tell a few other things. One very common way which the people in this particular corner of the world have of building their one-story or story-and-a-half houses, is as follows: A foundation of cobble stones having been laid where the side walls are to stand, and perhaps also where the back of the house is to be, two broad planks are fastened on their edges between upright poles set in the ground, on each side of the foundation, and damp earth is put between them and pounded down hard. The planks are then raised one course higher, fixed firmly in place, and more earth put in and tamped down, and so on till a height of ten feet or so is attained. Then a wood frame is put up inside of these walls. If the house is designed for a shop or store, the whole front consists of movable boards sliding in grooved pieces at top and bot-

tom. This is the general plan on which many a Chinese inn is built. To economize space, the tavern-keeper generally has a *box-bed* for his own use. This consists of two boxes, each one about 3 by 3½ feet in length and breadth and 2½ feet or more high. These two boxes, set side by side, make as good a bedstead as most Chinamen have. I was resting in front of a tavern one day last February, when I observed a string of bees pouring in and out through a crack between the corner post and the earth wall on my right. Through the obligingness of the landlady I was enabled to investigate the matter. There in that corner of the building stood one of these box beds. Rats had gnawed a hole in the lower corner of the box at the bottom, close by the crack, and through this crack and rat-hole the bees had come in and taken possession of the box. The landlady told me that they came of themselves in the previous May, and that she cut out their stores last fall. They had nearly half a bushel of new white comb partly filled with clear honey. Rape, which is much cultivated here as a winter-spring crop for making rape-seed oil, was just coming into bloom, and the bees were doubtless at work on this. In fact, ten days of mild weather had started a number of wild plants to blooming, and the bees were booming. Chinese bees always seem very docile. Rape honey is said not to be equal in flavor to tea honey. The tea-plant blooms in December.

J. E. WALKER.

Shaowu, China, March 20, 1889.

MANUM'S HOME APIARY.

HOW IT LOOKS IN WINTER.

MR. ROOT:—Agreeably to promise I herewith hand you a view of my home apiary in winter. This picture was taken the day following one of our Vermont snowstorms, and, as will be seen, Manum walked out into the snow nearly up to his waist to have his picture taken. There is quite a contrast, as you will observe, between his complexion and the beautiful snow, as appears around about the hives in the front row on the left. The playful winds toyed with the descending flakes in such a manner as to cause them to nestle down one over the other, between the rows, leaving the hives somewhat free from snow, while that portion of the apiary on the right is almost completely covered.

I am often asked if I shovel the snow away from the hives whenever I find them so covered with snow. My answer is, "Not always;" though when there comes a warm spell, so I think the bees can fly, I do so, that they may have a cleansing flight, which I believe to be very essential for the welfare of the bees, especially if their stores consist principally of honey, but not so essential if composed chiefly of sugar syrup.

The rows of hives at the left, along by the fence, have been some winters completely covered with hard drifted snow—so hard, in fact, that I have been able to walk over the hives, and a stranger would hardly have believed there were live bees under so much snow, and yet the bees always came through in good condition. But remember, whenever there were indications of a thaw I was on hand to give the bees their liberty. I well remember the first winter that the snow drifted in the manner above mentioned. I took a shovel and un-

dertook to dig them out; and after working a while I struck the corner of a hive about three feet below the surface of the snow. I continued to work away until I had dug a sort of well in the snow in front of the hive. As it was pretty hard work, and as I thought my time was worth more in my harness-shop than it would cost to hire it done, and *thinking it must be done* or the bees would smother, I secured a man to do the shoveling, and returned to the shop. In about an hour the man came in to ask what he should do with the snow shoveled out. I returned with him, to find that only two hives had come to light. I also found that, owing to the snow being packed so hard, the man had broken my shovel, and borrowed another of a neighbor. I finally scratched my head, and commenced to think and reason, and came to the conclusion that, as there was only about one foot of the top of this snow that was so hard, while the remainder was comparatively light, I decided that there would be air enough circulating through it to answer the requirements

being buried under snow too long at a time; but I do not object to their being well banked, except in front; yet I do not think that much snow around our double-wall (or chaff) hives is very much benefit after all. I once thought it was, and I have banked it around them; but I do not do so now, as I find that the bees in the hives wholly exposed—which are in the same apiary with those drifted under—winter as well as any; therefore I have come to the conclusion that deep snows are really no great benefit, nor, if watched, any great damage to the bees. If I could have just the proper amount of snow around the hives all winter I would not object, providing it be removed as soon as there comes a thaw; but to have the hives completely covered for a long time is, I think, detrimental to the bees, as it causes too early breeding, if the weather is mild.

After my bees are all packed and fixed for winter—which I usually do the last week in October or first of November—I leave them entirely undis-



A. E. MANUM'S HOME APIARY IN WINTER.

of the bees. I therefore discharged the man, and left the bees to their fate.

In about three weeks from this time we had a thaw, so that bees not so protected by snow had a good fly. I left these for experiment. In March the south winds so melted the snow that I was able to clear the entrance of all the hives, when the bees had a good fly, and I found, upon examination, that every colony was alive and in good condition. But, mind you, that, if my entrances had been at the side of the hives, as in most hives in use, and not underneath, as they are in my hives, I believe the result would not have been so satisfactory, as it is impossible for my entrances to become clogged by ice, as is often the case with side entrances. Since then I do not worry when my home apiary is buried in snow, because I am near by to shovel out when there comes a warm spell; but not so with my out-apiaries, as I have lost bees in out-apiaries by their

turbed until there comes warm weather enough for the bees to fly. Then I shovel away the snow from the entrance, and pull the slides to see that the entrances are all clear, and at once return them, as the notch in the slides gives the bees all the entrance they need in winter and early spring, it being 2 inches long by $\frac{1}{4}$ wide.

Since I have used the Bristol hive there have been two winters when the bees were unable to fly from November till April; hence not a track was made in the snow in any of my apiaries.

I will add, that my bees never wintered better than they did the two past winters; however, I always feel better when they can have at least one good cleansing flight in January.

Were I using hives with the entrance unprotected, as most chaff hives are made, I would either lean a short board against the hive over the entrance to protect the entrance from being clogged

by snow and ice, or I would take pains to keep the snow away.

A. E. MANUM.

Bristol, Vt.

Friend M., I was greatly pleased to get your excellent picture of an apiary in winter, because it may give perhaps hundreds of our readers, if not thousands, a glimpse of something they have never seen. I am very glad indeed to get the facts you give us in regard to bee-hives covered with snow. We notice in the picture there are ventilating-holes in the upper part of your hives. Now, I should think this would afford air enough. Of course, after a long confinement it may be desirable to cut away the snow, so as to give the bees a fly. My impression is, however, that with the greater part of our readers more harm than good will result in tinkering with the hives in winter. I am afraid it would turn out as it did with the man you hired. In our locality we never had snow enough to do any harm, in my opinion. We have such frequent thaws that there is almost always a space above the entrance, between the hives and the snow, to let in air, and to let the bees get out. I have often seen them crawl up the side of the hive, take a fly, and return in the same way.

THE ALFALFA FIELDS OF ARIZONA, ETC.

BY J. H. ROOT.

RO. A. I.:—In reading the report from the Nevada man, Mr. Ball, I was somewhat surprised at some of his answers compared to alfalfa grown in this valley. I always supposed it required warm weather to raise good alfalfa, as here in the warm months it grows very fast with proper care. Some cut it five times, and some six and even seven times in one season; but it can be cut five times, and then be pastured from the last cutting until spring. It remains green here all winter. Some are cutting now. I see a great deal of it in bloom yet. The beauty of this valley for bees is, there is no dew at night, and the bees can go to work as soon as it is light, and can work nearly every day in the year. They say they can gather their living here during the whole year, summer and winter. The bloom from an alfalfa field is sweeter than any flower-garden I ever saw. I suppose that is owing to there being so much honey in the blossom.

The honey here is different from that of California or the East. It is sweeter, and has more of a sugar taste in it, and is whiter. I never cared much for honey East; but here I can eat it all the time.

In this valley the water is run in between borders about 100 feet apart, the distance depending upon the lay of the land. If level they are further apart than when rolling. They do not furrow here nearly as often as they do in Nevada.

The only one great objection to the bee-business here is transportation on the supplies in, and the honey out. There is no trouble in making honey, and there is a railroad on foot now that will open up the lumber district from the mountains and give us a market out for all our hay, grain, poultry, and dried fruits.

I get fine alfalfa hay for my cow at \$3.50 per ton, when in the lumber region, less than 200 miles from

here, it brings \$30 per ton, and every thing else in proportion. Times are awful dull here now, because the markets are hard to get to—that is, mining and lumber camps; but the new railroad runs to both. Now is the time to strike this valley, as lands are cheap. I like it here much better than Southern California, where lands were held at from \$150 to \$400 per acre. Good land can be got here by buying a "right," from \$450 to \$1000 per 160 acres, and then water can be had for so much per share, or part of a share, depending upon the canal. The way the land is situated, some canals sell ten-acre rights for \$100. That includes so much water. They calculate 100 inches here to water 160 acres. Well, the more the country is irrigated here, the more water there is from year to year. The water is coming nearer the surface. The main canals are taken out of Salt River, up near the mountains, and is then run all around the valley in small ditches. Without water here there would be no living thing, as the rains are very few. We have had only two since I have been here. They were good ones, though.

I have not had a stove in the store yet, and have been comfortable. We get good mesquite wood at \$2.50 per load.

I can not tell you as much about the bees as you would find out from some of the bee-men. Alfalfa for stock is the same as bread to us. Hogs and poultry will keep fat on it, and stock will eat every particle of it as clean as though it were oats.

Tempe, Arizona, Nov. 22, 1889.

JESSE.

Many thanks, dear brother, for the important facts in regard to the matter you furnish us; and we are now looking forward to the time when I can make my second trip to California, taking in Arizona. I say "we," for I mean there will be two of us—Mrs. Root and myself.

CHAS. F. MUTH.

AN AUTOBIOGRAPHY OF ONE OF THE PIONEERS IN THE BEE-BUSINESS.

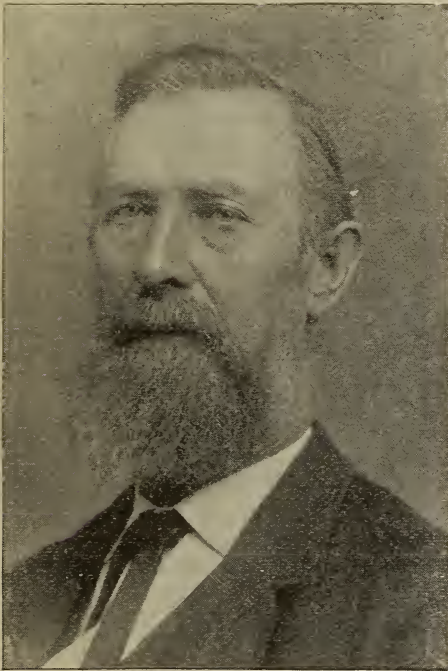
FRIEND ROOT:—Since you insist on a biographical sketch of my humble self, I shall endeavor to give you a history of my existence in America in as few words as possible.

I was born and raised in Hesse-Cassel, Germany. I arrived in Cincinnati in the spring of 1854, about 20 years old. Here I found a situation as salesman in one of the best groceries of the city, a business to which I had been reared. A desire to see the country, made me give up a very good situation after a stay of two years. I saw the orange-groves, sugar and cotton plantations of the South; and after my ambition was satisfied with a few years' experience in the wild West, I returned to Cincinnati; got married; filled a position as salesman in another grocery for nearly three years, till I started my own business, in 1861, at 976 and 978 Central Avenue, in our city. Two years afterward I bought the property, built it up, and am living there now.

My career as bee-keeper commenced with the establishment of my business, in 1861, although bees have been my hobby ever since I remember.

The first five colonies of bees in patent (?) box hives were placed on my roof in 1861. These patent

hives did not fill the bill with me, for I had read father Langstroth on the Hive and Honey-bee. I commenced to read the *American Bee Journal*. I read every book in the English and German languages within my reach, and was an interested reader of every periodical on the bee-question, as they, one after another, made their appearance. The *Bienen-Zeitung*, Salzburg, Germany, with its able editor, Schmidt, was a great source of information, as well as the *American Bee Journal* under Wagner. I have read, and still have, each issue, beginning with the very first of each. It is due to my friend Hill, Mt. Healthy O., that I adopted the Langstroth hive. Hill was my first tutor in scientific apiculture.



CHAS. F. MUTH.

You may remember yet, Brother Root, that I was one of the first warm advocates of "extracted honey." My labels read to-day as they did in 1869—"Pure machine-extracted honey." You remember, perhaps, also, the objections of old to the words "machine extracted." We have had for years, perhaps, as large a home trade for extracted honey as any house in the country. My first tin honey-extractor was made in 1869 by H. W. Stephenson, of our city, after the pattern of a wooden extractor made for me the previous season by Prophetor Bros., coopers, of our city. During the season of 1870 I sold my first four tin honey-extractors to beekeepers in this neighborhood.

My apiary has been, since 1861, on the roof of my house, and the average number of colonies per season is about 45. The largest average yield per colony in a season was 198 lbs. of extracted honey, all of which was gathered during 26 days, in the month of June. My largest crop in a season was

between 6000 and 7000 lbs. So you see I was one of the first to make good use of the honey-extractor.

This neighborhood has been visited by foul brood for the last eight or ten years, and our ardor as bee-keepers considerably dampened thereby. The study of the cure of foul brood has been an expensive experience to me. I have cured hundreds of colonies, but I can not prevent reinfection, and I have come to the conclusion that the cheapest and best remedy, after all, is the brimstone-pit, and wiping out of existence the stand, hive, combs, and all, on first discovery.

CHAS. F. MUTH.

Cincinnati, O., Oct. 22, 1889.

FLORIDA.

APPURTENANCES AND METHODS NOT NECESSARILY SUITED TO THE SOUTH.

MR. ROOT:—GLEANINGS reaches us regularly, is looked over closely, and then carefully read and thought over. I have been a reader of its teachings for about 14 years.

I have always found something in each number, which, practically applied, has proved to be worth the yearly subscription price of one dollar, or, for the 12 years' reading, \$288. This may appear to many a high estimate of its value, but I am sure I should much regret to be set back in the A B C of 14 years ago for the sum of \$288, and I think I speak the thoughts of many others of its patrons and readers.

There are a great many of the thoughts, theories, and appliances, used, recommended, and put before the bee-keepers, that are entirely useless to us in this climate. The problem of wintering is a great study. The care and cost, and the loss, are often great, even after all the precautions taken to make it a success; also spring dwindling, and a sufficient amount of stores to feed them until they can secure their living—all this is superfluous reading to us here.

LARGE VERSUS SMALL HIVES.

There is much speculation about large hives vs. small hives. Much of this appears very useless argument. The farmers of the country could, with equal claims over the officers of agriculture, advocate large horses in Ohio when small ones in the cotton-fields of the South would be far more economical, and so with hives. Location, source of honey, season, climate, all these may and do certainly and practically, and with a view to economy of the bee-labor, and that of the man, make a difference in the working size of a hive, as necessary as the different places where they are in use; hence the arguments appear useless, and the talk about a "standard" hive would be like a standard plow suitable for all climes and soils. But when real, practical, scientific, and natural subjects are made a basis of argument, then the interest is aroused all through the fraternity, and good will be the result. This, then, brings out thought, and reason from cause to effect. Such reading is very desirable; gives useful instruction, when personal arguments about "the hive I use" are of very little value to the practical honey-producer who thoroughly knows the flora of his location, and adapts the hive he uses to the profitable production of honey. The best argument is the honey produced. The hive is a very small part of the necessary elements of suc-

cess. The man or woman, and the flora, are the main stays of a successful honey crop.

Our crop of honey this year has not been large, but we are well pleased that it was as good as it is. The quality is of the very best. We commenced the season with 20 colonies, only in fair condition; made no increase, and have taken 2000 lbs., all extracted, quality excellent. It was sold by the gallon at \$1.25, all at home, except 20 gallons to A. I. Root, and 40 to Dr. L. H. Harris, Pittsburg, Pa.

Our bees are located at St. Francis, on the St. John's River, 10 miles from Deland. The honey gathered there can not be excelled in the State, and I very much doubt whether it could be in any other State.

I see that Mr. C. E. Jones says he is going to move 200 colonies to Florida for the orange-blossom honey. I hope he will come. The orange honey is very fine, and the bees are a great help to the setting-on of the fruit, carrying the pollen into the bloom as soon as it opens, thereby causing a more complete fertilization than would be without their aid, when the bloom first opens, when all its nature is complete. I can not well dismiss this subject of the honey-bee being a great help to the orange-groves. They carry the pollen into thousands of flowers that are pendent, that would perhaps never be reached by any other source, or, if so, only by the floating particles. More than this, my attention has been called to some of the groves in this vicinity; and where there were bees kept, this season the orange crop is very fair, fruit evenly distributed, while other groves, not having any bees near them, are not so full of fruit, and not so evenly distributed; and I think the day is not far distant when the large grove-owners will solicit bee-keepers to bring their bees within reach of their groves, thereby benefiting both parties.

I see, friend Root, you have been up among the northern bee-keepers. Could you not make a visit to Florida this winter, and call and see us? I think you would enjoy it, and also in the trip call on friend Poppleton over in Cuba. Do come—our latch-string hangs outside the door.

JOHN CRAYCRAFT.

Altoona, Fla., Aug. 24, 1889.

A REFERENCE TO QUESTION 111.

GENTLE BEES, BETTER WORKERS, AND SMALLER CONSUMERS.

WHICH will make the better working colonies during the working season—that is, secure the most honey—those that require 20 to 25 pounds to carry them through, or those that will get along on from 5 to 10 pounds while in winter quarters?

The various answers to this question, and your remarks, set me to looking back for several years, and thinking up concerning various strains that I have had for the past 13 years. That there is so much difference in different strains concerning the amount of stores consumed between November 1 and April 1, I can trace back to 1876, on a queen that came from C. C. Vaughn, whose stock was always strong, as were also those of her daughters and granddaughters. From the time of the end of the fall harvest to the time of pollen and honey in the spring, it was a rare case to see the workers fly out much; and for 7 or 8 years that I kept this

strain as near pure as possible, it was very noticeable what a small amount of stores was consumed, and it was also noticeable to the same extent where this blood was intermingled with some other strains.

Between 1876 and 1882 I obtained new queens from 15 different strains; and among them were several that were noticeable for their extreme activity, as were those referred to from C. C. Vaughn, and two other places, for their extreme quietness. Those that were so active consumed *pro rata* as much more stores as the quiet ones did in minima. These quiet strains always came out strong in the spring, were always in readiness for the harvest, were gentle to handle, were good to go to work in the boxes, and did a good business at boxing; and just the reverse were the results from those that were active, and consumed a large amount of stores from November 1 till April 1. These various differences were noticed by other parties in this locality for 12 or 15 miles in all directions, and by those wintering in the cellar, in clamps, or on the summer stands; and as those that were quiet built up strong and fast in the spring, just as noticeable was the spring dwindling of those that had been active; and the active ones were, in the same proportion, irritable, and prone to sting. These qualities were so apparent, that several of the bee-keepers I know of made it a point to keep weeding out the active propensities as fast as possible. The active ones were more inclined to swarm, and were quite often very much given to not freely taking a new queen, and to very often ball their queens whenever the stocks were examined. The workers of these active stocks were generally among the brightest-colored of the apiary, and the quietest were among the dull and darker colored ones, and were quite often called, by those that were not experienced, the "hybrids."

These quiet ones, when started to breeding in the spring, usually consumed stores enough to make up for their lack when in winter quarters, and not uncommonly surpassed the amount used by the active strains; so you see that the experiences of the past 13 years here in Connecticut are in accord with Mr. Doolittle's, and why should they not be? because bees at several of the apiaries contained blood of his strain, and from the Dadants' too, and from stock from imported queens from A. I. Root, and from queens from the Oatmans, Alley, and Nellis. That there is a vast difference in regard to the uneasiness, activity, and amount of stores consumed, seems to be qualities possessed by various strains or families of bees; and that these propensities are perpetuable characteristics, are things that I am not the only one who is convinced that we must guard against. There are apiarists within a few miles of me who think as much of keeping a record and pedigree of their bees as any Jersey, Durham, Devon, or Holstein breeder does of his cows; and by these memoranda for from 10 to 20 years they have arrived at the conclusion that blood will tell in the bees as much as anywhere else in the animate kingdom; and yet one will preach out, "It's pollen;" another will preach, "It's poor honey;" another, that it's the weather. Why, Mr. Root, I know where there is a bee-keeper—yes, several of them—who will tell you, and prove it by practice, that it is an absolute necessity for the bees to have lots of pollen that they may winter well, and they have followed the practice ever since 1877, and they

don't lose their bees either. I practiced it in one apiary myself ever since 1877, and it is the apiary where I always have the strongest colonies, the first drones, and raise the earliest queens, and lose the fewest colonies in winter or spring, and yet they have all the pollen that I can give them. I think that question III will set many to looking for some of their winter losses among these very active and naturally uneasy colonies, and find not a few of their most unprofitable ones among the same class. I have found it so, and so have some other bee-keepers. Just look around you; keep watch, and see if I have not told you a grain of truth this time.

One thing more: While I was looking over the bees in the Grove Street Apiary in New Milford last week, one of those pleasant days (the thermometer told 60 in the shade), it was very plain to be seen that those stocks having used the least amount of stores were in the best condition, were the strongest, had the fewest dead bees on the bottom-board, and, besides that, could be traced by the register for the past four seasons to stock possessing those qualities, and just the same could those of the active and weak stocks be traced out in their qualities.

H. L. JEFFREY.

New Milford, Ct., Mar. 18, 1889.

AN A B C SCHOLAR'S EXPERIENCE.

HIS UPS AND DOWNS.

EDITOR GLEANINGS:—Do your students of the grammar class, bee-college graduates, "and all that," ever look back to the time when you did not know a drone from an eye-bunger bumble-bee, or a worker from a yellow-jacket? I am pretty sure you do, judging from the kindly sympathy and infinite patience with which you answer our questions and rehearse the (to you) monotonous beginnings of bee-lore. I suppose I am beginning much as some of you did—knowing almost nothing on the subject. I am not much given to enthusiasms, so when this fever struck me the attack was something serious. There was no incipient stage, such as is common to fevers, and my system seemed unable to resist the contagion in the least. I caught the disease from a stray copy of a book which I found in the Y. M. C. A. library of our town; viz., "Blessed Bees," by John Allen. Being favorably disposed toward Hahnemann's "*Similia similibus curantur*," the medicine I took was Quinby's Mysteries of Bee-keeping, Root's A B C, and a subscription for GLEANINGS, full doses of each, daily. As pulse and temperature seemed to increase under this treatment I prescribed for myself a remedy which is said to often effect a cure when all else fails; viz., a swarm of bees. I had a deal of faith in this last medicine. I thought, if it both does and does not cure rheumatism, there is at least a good chance that a few stings will cure the bee-fever.

But like failed to cure like in my case; on the contrary, the prescription worked up an enthusiasm which as yet shows no signs of abatement. There was unalloyed pleasure in the hours that I watched them, investigated, experimented, blundered, and rejoiced to see how docile and patient they were with me; how quietly they repaired my mistakes, and recovered from the effects of my mismanagement.

My first task was to transfer them from the bar-

rel in which they were brought to me, to an L. hive. I had every thing at hand that I expected to use. Even my better half, in gloves and mosquito-net veil, was there as assistant. It was seven o'clock of a bright August morning when I inverted the barrel and began operations. I may as well confess I was "scared of them," as our colored girl put it. It was no with little trepidation that I sawed the hoops away and put a carving-knife into the combs and my bare fingers among the bees. But they respected my sentiments, and I got but two stings that day. What a mess I made of it! By the time I was half done, the barrel fell to pieces, and there were about two robbers to every home bee. I could not keep them off a comb long enough to lay it down on the table, and was obliged to fit and tie, with every thing black with bees. In an hour and a half I had six frames of pretty fair comb hung in the new hive, and the most of the bees were in too, or flying about the entrance. I did not see any thing of the queen, and don't know when or how she got in. Then I left them to their own devices, and did not see them till next morning, when I opened the hive, and, to my great surprise, found they had not a drop of honey. I had hung the frames in half full of honey, but the robbers had kept on at their work after I had finished mine, and had cleaned them out.

As there is very little honey in our summer flowers, I knew I must feed them or they would starve, or, at least, raise but little brood. So I fixed up a pepper-box feeder, and for two or three weeks gave them a nightly feed of sugar syrup. A few days after transferring, while removing some clasps and sticks, I found the queen. Didn't we all rejoice, though, over that first sight of a queen-bee? Wife and children gathered about me as I held the frame and watched her run over the comb, and tried in vain to see the "attendant bees," the "retinue," pictured in our books. Such a beauty she was—long-bodied and yellow! We, at least, did her homage, if the bees did not. By smoking the bees off the center of some of the combs we found she had been laying. Then we counted the days until the brood was sealed, and again until the inmates of the cells cut their way out, fuzzy-headed and hungry. It was a revelation to grown folks and children; and we took daily observations of their progress, and read and talked of them, almost to the exclusion of other topics.

If our incessant smoking and watching hindered them in their work they did not show it; and soon there were so many bees and so much brood that I concluded to divide them, and see if they would raise some new queens. I had given them two or three frames of wired foundation which they had drawn out, and nearly filled with brood; so I thought I had enough for two pretty fair nuclei. I took the queen and all but three frames of brood to hive No. 2, when they went to work, very few leaving for the old stand. Then we watched No. 1 closer than ever. In two days they had four cells started; and we saw with an interest that amounted to excitement, the baby-queen lying in its milk-white bed, which we knew was the royal jelly we had read about. One was so big when only three days old that we were afraid it would not make a good queen; so I tore it out. In due time the rest were capped, and we waited, impatiently enough, for the culmination of our hopes. One morning there was an empty cell, and a nice young queen travel-

ing on a tour of inspection over her kingdom. The other cells were yet intact, and I cut them out to save her majesty a quarrel.

All had been plain sailing so far, and we were proud of our success—perhaps a little too much elated. Perhaps we needed (at least we got) a lesson which we will not soon forget. The queen-raising was done in October, while the bees were getting a good deal of honey from goldenrod. About a week after our queen was hatched, the harvest ended. I was feeding my two swarms a little daily, as I wanted to have them strong when orange-blossoms came, in February.

One evening I came home and found things in a turmoil. Bees were flying about wildly, crawling over the hives, and fighting everywhere. As it was then after sunset I did nothing and soon had the pleasure of seeing the robbers withdraw their forces for the day, and things quiet down. That was the beginning of the end. I shut up my hives for days at a time; but, shut or open, the thieves were there at daylight, and stayed until dark. If I left a hive open so just one bee could get in or out, the result was an all-day fight and a pint of dead bees at evening. After a week of this sort of thing I opened No. 2 one morning, and found the bees so starved that they could scarcely crawl. They were tearing out the sealed brood. I gave them a good feed, and shut them up "for three years or during the war."

In No. 1 my beautiful young queen was dead, and there was no honey and no brood. There was a sorrowful party around the evening lamp that night. Two-thirds of our bees were dead, one hive queenless, and a poor outlook for orange-blossom honey. The conclave decided to unite what were left, shut them up, and feed by lantern light until spring if necessary.

I was afraid they would fight, and kill the queen; but it seemed the only thing to do. So I hung the frames on opposite sides of a hive, inverted a Mason quart jar of syrup in a saucer, between them, and left them to their fate. Next morning the jar was empty, and the queen all right. That night I put the frames together, and the feed in a wooden butter-dish on top of them. Twenty-four hours later the queen had changed sides and all was quiet. In a few days the thermometer dropped to fifty, and the robbers suspended operations. We have also suspended our experiments and investigations, and are going to feed steadily, and give the veteran survivors of the autumn campaign the rest which they so richly deserve.

As to the outcome of this, my first term in the school of bee culture, I think it has paid largely in experience, and over and over again in enjoyment. The A B C has been our text-book, and we look on it as the X Y Z as well, in all that pertains to the honey-bee. GLEANINGS is devoured as soon as received, and re-read to wife and children when the evening shadows bring us together. We are glad to have found our way into the circle of genial, intelligent patrons of this pure and elevating industry, and glad to find that so many of you are confidently looking forward to even a better inheritance than our all-bountiful Father has given us in this beautiful world.

E. J. BAIRD.

Orlando, Fla., Nov. 20, 1889.

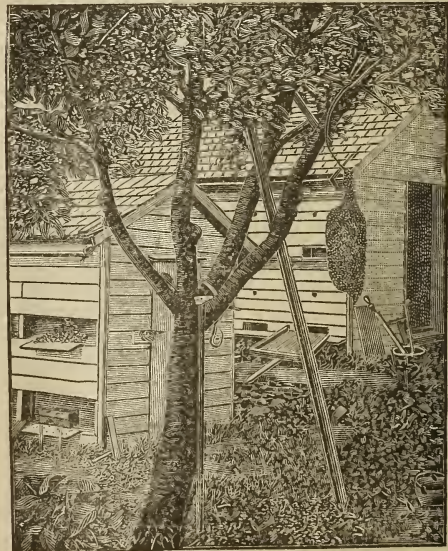
Friend B., the story of your commencement is so nearly like my own in the earlier volumes of the *American Bee-Journal*, be-

fore GLEANINGS had an existence, that it would make you smile to read it over. I had exactly the same troubles with robbing, and I once thought I would almost go to the expense of a trip to either Langstroth or Quinby, to have him explain to me just how I could tell robbers from other bees, and know what to do when they acted as they did with you. I was assured by bee-men of experience (through print, of course, for I had never seen a live bee-man till I commenced), that in a little time it would be all plain and easy.—Your plan of shutting your bees up for "three years or during the war" may do when you can not do any better; but I should regard it as a wasteful way, at least when honey or pollen is to be obtained. Almost any colony will defend itself from robbers if it has plenty of bees, a fertile queen, and an entrance not too large for the quantity of bees. I rather think they defend themselves a little better where they have brood in all stages. When they are suddenly attacked they sometimes have to have a little assistance until things are straightened up, and a decision has been made as to who is running the institution—the robbers or the honest owners. You will get out all right—never fear. We shall be quite glad to hear from you again. Give our respects to Mrs. B. and the little "B.'s," who are interested in the success of the new enterprise.

BEEES IN HOUSE-APIARIES.

J. A. GOLDEN'S METHOD.

FRIEND ROOT:—I inclose you a picture of my plan of keeping bees, also how I hive them. If you look at the further house, and at the lower right-hand bee-entrance, you will observe what we call a feed-board. On each side there is a wire hook that fastens into two small staples placed in the alighting-board at the proper



GOLDEN'S HOUSE-APIARIES, AND PLAN OF HIVING SWARMS.

places, the standard being hinged to the under side of the feed-board, with a nail driven into the lower end, filed sharp, and, when swung against the house, will hold the board very rigid. It is one of the handiest tools one can have about a house-apary for hiving bees. I use the wire basket that shuts automatically when the bees drop into the basket, should the bees cluster on a tree; but I usually catch the queen when she comes out, and place her in a trap, and hang the trap on a pole or in a tree, as you will observe in the picture. The bees will soon cluster, and may be shook on the feed-board, the queen liberated, and hived with the least trouble. The small dark spots above the entrances are two-inch auger-holes with funnel-shaped wire-cloth bee-escapes. A three-inch space between the hives and weather-board is packed solid with sawdust, answering the same purpose as the chaff hive. During the winter I fill the porticos with straw, having an air-chamber on the inside of the house to the hive, covered with wire cloth, that affords abundance of air for the bees. I also have a three-inch tiling, 60 feet in length, passing about six feet under the ground, and conducted thence up through the floor of the house, having a small ventilator at the roof; and on a cold day one would be surprised to see how mild the air seems to be, passing from the ground. My floors are carpeted, and no jarring is noticeable when one desires to examine the bees. J. A. GOLDEN.

Reinersville, O.

ALSIKE TURNING TO WHITE DUTCH CLOVER.

ALSO RED CLOVER TURNING TO ALSIKE; AN EXPLANATION OF THESE APPARENT PHENOMENA.

MR. C. L. GOUGH states in GLEANINGS of June 1, that he believes alsike has turned to white Dutch clover with him. Now, after an acquaintance with both of these varieties for years, I think he must be mistaken. That the changes, as he states them, undoubtedly do happen in hundreds of fields all over the United States, I believe. Perhaps it would be better to say that one kind of seed is sown, and, by some reason, destroyed, and another growing plant, perhaps of similar habit, takes its place. Some of the reasons that may lead us to think alsike may change to white Dutch, are, that in many seasons, on a dry soil (especially if sown thick), alsike will grow short, and about the height of white Dutch, and it will also have a great many nearly white blossoms. With us, about the middle of June, there were many stalks of white Dutch one foot in height; but the difference between this and alsike could be readily seen by comparing their different way of flowering. The flower of the white Dutch is borne at the top of a leafless, branchless stem, springing from near the root of the plant. With alsike there is generally a flower formed for every joint on the stalk of the plant. This difference in the manner of flowering is sufficient to show that one variety can not change to the other in the course of a season.

To account for the presence of the white Dutch in any soil here is not difficult, as it will spring up under favorable conditions everywhere. The seeds are probably scattered by the winds, animals, etc. On a piece of ground lately cleared of timber, the

white clover has made a fine growth, and yet probably no grass seed has ever been sown there by the hand of man. May we not refer this to the provision made by an all-wise Providence to always keep the ground covered with growing plants?

One of my neighbors has perhaps some reason for thinking that red clover turns to alsike, although he knows better. He seeded a field of six acres to red clover and timothy, and was surprised the next year with a fine growth of alsike. It had been about ten years since any alsike had been sown on this field; but the conditions were favorable for its growth, and all the seeds in the soil germinated, while the red clover had been winter-killed. Perhaps the same happened to Mr. G.'s alsike, and the white Dutch came in its place.

Watkins, N. Y.

CHAS. CHAPMAN.

Friend C., there is certainly something wonderful about the way alsike and other clovers come up, years after the ground was first seeded, and I think that this fact alone explains not only one kind of clover turning to another, but the complaint that has been made that seed furnished does not always produce the kind of clover that it ought to.

SPECIAL DEPARTMENT FOR A. I. ROOT, AND HIS FRIENDS WHO LOVE TO RAISE CROPS.

That art on which a thousand millions of men are dependent for their sustenance, and two hundred millions of men expend their daily toil, must be the most important of all—the parent and precursor of all other arts. In every country, then, and at every period, the investigation of the principles on which the rational practice of this art is founded ought to have commanded the principal attention of the greatest minds.

JAMES F. W. JOHNSTON.

EXTRA-EARLY CABBAGES.

Mr. Root:—Have you grown any or all of the following varieties of early cabbage? Early Jersey Wakefield, Early Etampes, and Early Express (both Early Etampes and Early Express have been renamed by several seedsmen, and called their "Earliest"). We should like to hear what you think of any or all the varieties named, under whatever name you may have grown them. We want to know what estimate of value you put upon them as early market varieties; which is the earliest, and which sells the best in market.

W. J. GREEN, Horticulturist,

Ohio Agricult'l Experiment Station.

Columbus, O., Nov. 26, 1889.

We have tested all the kinds you name, besides every thing else that has come out claiming to be earlier than the Jersey Wakefield. Some of them have, perhaps, been a trifle earlier, providing we call loose heads *cabbage*; but so far as sound heads are concerned, we have not found any thing that would compare at all with the best strains of the Jersey Wakefield. I ventured, two years ago, to plant just one row of Early Express, but the experiment cost me several dollars. The Wakefield was so near the same time in maturing, that no one would buy the Express at all, on account of its inferior quality. Landreth's Extra Early gave us a few fair heads; but there was nothing uniform about it. The product seemed to be all sorts and sizes, both early and late.

WANTED—A COAL-OIL STOVE FOR HEATING GREENHOUSES.

Mr. Root:—I want a small coal-oil stove for heating a small greenhouse; and as you have had experience in that line of business, and know the make that would suit best, I come to you. My house is quite small, and I want a stove to burn coal-oil in, and one that will not injure the flowers.

Kelleyville, Tex., Oct. 17, 1889.

J. BOWN.

Friend B., I can not find by any of the floral or gardening magazines that any such thing is in the market. I have seen accounts, however, of several home-made ones. It has been found necessary, I believe, to have some sort of a chimney, or small stovepipe, to carry off the gases and smell. As steam-engines are now run by coal-oil or gasoline, without question they could many times be profitably employed for warming greenhouses. Such a stove ought to be run 24 to 48 hours without any special attention. There are coal-oil stoves made for heating dwellings, to be found at most stove-dealers' establishments; but they will probably need some modification to fit them for a greenhouse, unless, indeed, your greenhouse is so small that no pipes for either steam or hot water are needed. An ordinary coal-oil stove answers nicely to keep the temperature of a cellar just above the freezing-point; and I do not see why they would not answer a similar purpose to keep flowers from damage, especially in the comparatively mild climate of Texas.

THE "PLANET" TOOLS, FOR LADIES.

Dear Sir:—Please be kind enough to tell me if the "Planet Jr." double-wheel hoe and cultivator (Figs. 10, 11, 12, 13, 14, and 15), illustrated in the catalogue you sent me, can be used by a lady; or if it is too heavy. Our soil is sandy and mellow; and as help is scarce, I should like to find something to help me work faster. Miss S. E. RAUCHENSTEIN.

Whistler, Ala., Nov. 18, 1889.

My good friend, unless you are very stout and strong, I fear that you will find any of the machines mentioned very fatiguing. The amount of enthusiasm you have, will, however, make a vast difference. You can take off some of the teeth or cutters, so as to make it run easier, but then it would not work so fast. If you possess the strength of an average woman, I think you will do much more work, and do it better, with the machines mentioned. I believe, however, I would first try the Firefly, Nos. 24 and 25. You can work these without any trouble, and they are easier than a common hoe, because the wheel enables you to go at exactly a certain depth, and not deeper. Of course, you must have nice mellow soil, or none of these tools will be available. If you could borrow one of some friend near you, before investing, it would be quite an advantage. A good deal depends on getting accustomed to these tools, and knowing just how to use them. Our average hired help do not get along very well with them. The trouble is, they do not understand it, and, worse still, they have no enthusiasm in making it bring out its best capabilities. Now, to me there is nothing I enjoy in the world more than taking these tools into the garden, after a

rain, when the soil is just dry enough, and make them put the plants in nice order, and do it rapidly.

HOW TO TELL WHEN A WATERMELON IS RIPE.

In my young days I was laughed at so much for pulling green melons (for I could not decide when ripe by thumping) that I put my wits to work to decide in some other way; and after experimenting for years I at last learned to tell very easily. My plan is this: I draw my thumb-nail over the melon, scraping off the thin green outer skin. If the edges of the skin on each side of the scar are left ragged or granulated, and the rind under the scar is smooth, firm, and white, and has something of a glossy appearance, the melon is ripe. But if the edges of the scar are smooth and even, and the thumb-nail has dug into the rind in places, and the skin does not come off clean, then the melon is green. I hope I have been explicit enough to make it plain. You can easily learn by experimenting on two melons, one ripe and the other green (after they have been cut open), and noting the difference.

J. J. HARDY.

Lavonia, Ga., Oct. 31, 1889.

Friend H., I have been in the habit of deciding somewhat as you decide—by appearance; but I never thought of scraping the melon with the thumb-nail. Since you mention it, however, I am inclined to think that your test is a good one, and we hereby tender you our thanks.

THE IGNOTUM TOMATO AND THE BEES.

The packet of Ignatum tomato seed sent me last spring by you gave me 25 plants, which yielded a good crop of tomatoes. I set them alongside of Livingston's Prolific. The Ignatum, with me, grew smooth and nice, of good size, with only one fault; and that is, in the blow end of the tomato there seems to be a small scar left, or rusty spot. They seemed to be wonderful bearers.

As to the honey crop, that seems to be almost a failure with me this year. I have 196 colonies of bees, and only 1300 lbs. of honey, all told, extracted and comb honey combined. I would lay the cause here with me to the excessive rains through the season for honey-gathering.

Akin, N. Y.

J. LINGENFELTER.

THE DELICIOUS VERSUS THE STRATAGEM PEAS.

We have had the Stratagem pea for several years. They are an excellent pea, but we have found something decidedly better. It is called the Delicious. It has larger vines, larger pods, and larger peas, and they are decidedly more delicious. They are a little later than the Stratagem; but if you try them once I think you will drop the Stratagem and take these for your main crop. The first year they did not seem to be quite so prolific as the Stratagems, but this year I think they were fully their equal.

E. Z. GREEN.

Montague, Mich., Nov. 22, 1889.

HENDERSON'S BUSH LIMA BEAN.

With me, the Henderson lima bean is No. 1—no sign of any tendency to run, and is two weeks earlier than the pole small lima beans planted at the same time, and it has the appearance of yielding better than the pole lima.

GEO. DREW.

Bunker Hill, July 20, 1889.

We agree with you, friend D., except in your last statement. The bean is certainly

very prolific, but we somewhat doubt whether it will give us as many bushels to the acre as the pole lima beans.

HEADS OF GRAIN

FROM DIFFERENT FIELDS.

THE STANLEY EXTRACTOR DEFENDED.

I do not consider Mr. Coe qualified to pass a correct verdict on the Stanley extractor (see page 957), as the one he refers to was made by Mr. Stanley, who never gave proper care to their manufacture. Mr. Coe got from him a machine whose baskets did not fit his frames; and in ordering new baskets, months later, from me, he put them (probably) on the same arms as the first ones, and did not get the nicety of adjustment that is necessary, or else has a very weak operator. A nicely adjusted, well-made machine, is *easily run, easily reversed*, and is appreciated by those who have tons of honey to extract. I inclose a card from Mr. A—, who used three machines the past season, one in each apiary.

E. R. NEWCOMB.

Pleasant Valley, N. Y., Dec. 3, 1889.

The inclosed is the card referred to. We withhold the name, as requested by the writer.

E. R. Newcomb:—The extractors I bought of you are all I could ask for in a honey-extractor. I have extracted tons of honey the past season, and they have worked *well*; but for certain reasons I would rather not have my name go before the public.

We are glad to get this; and may we not hear from others who have used the Stanley? Let the truth be what it may. We shall be just as pleased to get testimony favoring the Stanley as our own extractor.

THE HONEY THAT WILL NOT CANDY.

Have you any extracted on hand that is not yet candied? The heating of it is a small matter; but if it is not yet candied, it is an indication that it will not granulate so readily as what we have had. We have never before had so much trouble with honey becoming candied, and simply because we have been using the linden honey almost entirely. I have had several lots of California extracted from New York, but none that has been real nice.

Allegheny, Pa., Nov. 15, 1889. M. H. TWEED.

Friend T., you call attention to something we had not particularly thought about before, only I had observed that honey once candied is, as a rule, much more liable to candy again—that is, if it is not sealed from the air, like canned fruit. There have been quite a few complaints this present season, that honey candies unusually quick.

WINTERING BEES IN A FRUIT-CELLAR.

Can you tell me whether bees will winter as well in a cellar with apples and potatoes, as in one with bees only, other things being equal?

Roseburg, Mich., Nov. 20, 1889. J. MITCHELL.

Friend M., my impression is that a cellar that is right for apples would be rather cold for bees; but some may perhaps prefer to have their bees as near the freezing-point as apples will bear. I think, however, that

most bee-keepers decide that a temperature just right to keep potatoes to the best advantage would be about right for bees. Those who advocate keeping the bees at from 45 to 50 would want the cellar rather warmer than is best for either apples or potatoes. Potatoes would be more likely to sprout, and the apples more likely to rot. Apples do very well when kept just at the freezing-point, and a little below does not seem to harm them. I do not think that the odor from apples or potatoes would do any harm, unless they were rotting. Of course, in that case we should not want them too near the bees. Potatoes and apples also need a certain degree of dampness. This was formerly thought to be detrimental; but I believe late decisions have left the matter somewhat undecided.

TOILERS OF THE SKY.

How glad some are the songs that greet
Our ear from forest, field, and street!
The songs of toilers as they fly,
The myriad toilers of the sky.

We do not know the words of song
The singers sing that haste along;
But yet we know they're songs of praise,
And Jesus knows what each one says.

Lord, how minute thy love and care
For thy creation everywhere!

The smallest gnat the eye can see
Is toiling on and praising thee.

And shall the sons of Adam's race
Be dumb before that blessed face
Who, from the stable to the cross,
Hath lived and loved and died for us?

St. Mary's, Ontario, Can.

F. M. MASTER.

WINTERING ON HONEY-DEW; WHEN WE CAN AND WHEN WE CAN NOT.

The discussion of Question 148 in the Nov. 15th GLEANINGS was very interesting to me, as I have had considerable experience with honey-dew. In looking over my diary I find that my bees have gathered no honey-dew since August, 1884, until the present season. During the season of 1884 they gathered about 20 pounds of honey-dew to the hive. I also remember taking all the honey-dew from every hive except one, and this one colony was the only one that died. Nine-tenths of the bee-keepers' bees around here died that same winter. I find also in my diary that the winter of 1884 was a very severe one. The bees were confined to their hives 75 days without a chance to fly. They were in from the 9th of January until the 26th of March. Twenty days during this time the thermometer was below zero. Bro. Root, I suppose if you had been here you would have given a few colonies honey-dew the following winter, to see if it was that which really killed the bees. It would not have killed them the following winter, I know, because 35 days was the longest time that they were confined to their hives, being from the 4th of January to the 9th of February, with only six days below zero. This would make all the difference in the world. My bees have not been confined to their hives 75 days in succession in any one winter since. Last winter 59 was the longest, or from the 5th of January until the 6th of March, with only two days be-

low zero. It seems of late years that the longest cold spells come in the latter part of winter. Now, it was not always this way. If we have a winter like 1882 the honey-dew will make the bees kind o' tired. During that winter the worst cold spell came in the fore part of winter, or from the 12th of November to the 27th of January, making 75 days of confinement. During the winter of 1880 the bees were kept in their hives 99 days in succession, or from the 4th of December to the 15th of March. Any honey-dew during that winter would have been fatal. Now, if the fore part of this winter consists of a prolonged cold spell, Bro. Doolittle's eyes will begin to stick out toward spring. If the longest cold spell keeps off until after the first of the year, any hive with less than ten pounds of honey-dew is safe. If they have more I should not like to insure them. I left very little honey-dew with mine this winter; but having only a limited amount of white honey on hand I have placed them on short rations for winter. I winter half in a cave, the rest on their summe stands.

I have sold 40 gallons of honey-dew up to date, at one dollar per gallon. It is as black as pine tar, and has a very unpleasant flavor. Some of my hives stored as much as 60 lbs. of it. They gathered all of it from the 20th of August to the 12th of September, just working in the mornings. I extracted about half of it, and left the rest in combs. I don't think my bees will starve the coming season, unless they starve this winter. J. DALLAS.
Sharpsville, Pa., Nov. 26, 1889.

Friend D., you speak only of wintering outdoors, if I am correct. How about keeping bees 100 days in confinement in the cellar, as many of our friends do right along? I am inclined to think that some specimens of honey-dew are very wholesome; but I am well aware that the greater part of it is very poor. Sometimes when I get a taste of it in comb honey, I find it so exceedingly disagreeable that I do not wonder that it kills bees. Who was it, pray, that bought forty gallons of honey-dew, as black as pine tar, and what did they want to do with it—that is, if you have no objection to letting us know? If it was used for flavoring tobacco, may be it was all right, although I should be much better pleased to hear that the tobacco, honey-dew, and all had been thrown away or burned up.

THE "BEE ELDORADO OF THE WORLD."

I see by the last number of GLEANINGS that Mr. W. K. Ball, of Reno, Nevada, gave you a few items about alfalfa. I have no doubt but that, at some future day, that country he speaks of will be the bee Eldorado of the world. As there is considerable money in raising alfalfa, all the available land in that section will be set to this plant of the desert.

There is a long strip of territory on the east side of the Sierras, which extends from the northern boundary of Nevada down into Arizona. Our bee-keeping friend, Mr. John L. Gregg, is located on a continuation of this same belt. All through the Great American Desert, alfalfa would flourish if it could be irrigated, and then, truly, the "desert would blossom as the rose." On the west side of the Sierra Nevada mountains (in Eldorado Co.) it does not yield honey to amount to any thing. On the east side it seems to be the reverse as regards

the secretion of nectar. I suppose the change of climate, atmospheric conditions, and sandy soil are more favorable for honey secretion. Alfalfa flourishes best on sandy soil. It is a pretty sight to see a field of one hundred acres one vast sheet of purple blossoms.

S. L. WATKINS.

Placerville, Cal.

BEE-STINGS VS. RHEUMATISM; ANOTHER VALUABLE TESTIMONY.

I see many statements in GLEANINGS regarding the subject of bee-stings as a cure for rheumatism. I contracted it while in the army, and have been a great sufferer for many years, often being confined to my bed for months at a time, experiencing all the excruciating agony and pain that any mortal could endure. I was given up to die, by the best doctors in eastern Pennsylvania, being reduced to a mere skeleton of ninety pounds. After the doctors forsook me, and had told many of my neighbors that I could live but a few days at most, I, through the intervention of a kind Providence, gradually got better, and in three months I could get out on crutches, and in that condition I lived for six years, when I bought a swarm of bees in the spring of 1883. When the bees showed their temper I could not get away from them very lively, and I received many very severe stings. At one time I came near dying from stings. Oh, but I was sick! I broke out in blotches all over my body, and a numbness came over me so that I could not move my tongue to speak, and for once in my life I was a mute in reality. From that time I have often told my friends (when they speak of my improved condition) that I give the bees the credit of doing what the doctors could not. I am not careful to avoid an occasional sting, and I can walk around comfortably with a cane, and I weigh 196 pounds. I do not claim a complete cure, but I am so much improved over my former condition that I can not help hailing with joy any thing to relieve such terrible suffering as I have endured.

S. W. TAYLOR.

Harveyville, Pa., Nov. 25, 1889.

BEE-STINGS A POSITIVE CURE FOR INFLAMMATORY RHEUMATISM.

I have read the reports in GLEANINGS about bee-stings as a remedy for rheumatism; and as there are some that claim it cures them, and some that it does not, I thought perhaps my case might interest you a little. I have suffered with the worst kind of what I call inflammatory rheumatism at different times for over fifteen years. Sometimes it would be two months when I could scarcely turn over in bed and could not even bear the bed clothes to touch the limb that was bad. My knees and ankles and feet were the most affected. It would commence in one joint, and get so bad that the joint would swell terribly, then all in a second it would ease off, and in about an hour the pain was all gone; then in perhaps another hour it had settled into another joint, and it was as bad as the first one. It would sometimes move three or four times before it had run its course, then I would gradually improve. Some years I would have only one or two spells, and some years I would have three or four, and it was mostly when I caught cold.

About four years ago I commenced to keep some bees, and, of course, I got the allotted number of stings, and now I have been three years without any rheumatism worth speaking about. I have had a slight aching this last rainy weather, but not

worth noticing. My opinion is, that stings will cure some kinds of rheumatism; but I am satisfied that there are more than one kind, and perhaps it will not affect some kinds. Of course, I can not be positive that the stings made the cure. It might be the honey I ate, and that is lots, as I am fond of it. then, again, it might be the change of climate, as I moved from Chicago to this place; but I don't think it is the change, as I have had some of my worst spells since I moved here. If I should have any more bad spells I will give the bees a good chance to annihilate it; and if they do I will let you know.

JOHN HAMMOND.

Buena Vista, O., Nov. 25, 1889.

Friend H., we are exceedingly obliged for your careful and conscientious report. No doubt you are in the right about it, and that there are different kinds of inflammatory rheumatism. The testimony is coming out, however, exceedingly strong on the side of bee-stings.

NOTES AND QUERIES.

We solicit for this department short items and questions of a practical nature; but all QUESTIONS, if accompanied by other matter, must be put upon a SEPARATE slip of paper with name and address.

We had nearly 4 inches of rain in October—the heaviest flood in October since 1849.

Long Beach, Cal., Nov. 4, 1889.

F. J. FARR.

100 BUSHELS FROM 2½ OF SEED.

I purchased 2½ bushels of Japanese buckwheat of you last spring, to sow, and I now have at least 100 bushels of it to sell—a better sample, I think, than that I got of you.

O. D. HACKLEY.

Batavia, N. Y., Nov. 22, 1889.

264 BUSHELS OF JAPANESE BUCKWHEAT FROM 7 ACRES.

We have this day thrashed the Japanese buckwheat raised on 7 acres of land from the first five bushels of seed bought of you. There was 264 bushels.

E. H. HOUGH.

Saybrook, Ohio, Oct. 17, 1889.

435 BUSHELS OF JAPANESE BUCKWHEAT FROM 20 ACRES, AND 625 BUSHELS OF WHEAT, ALL IN THE SAME SEASON.

I harvested 625 bushels of nice fultz wheat from 20 acres of ground. Then I plowed the ground, and sowed it to Japanese, from which I thrashed 435 bushels, making 1060 bushels of grain from 20 acres of land, and I have drilled the buckwheat stubble into wheat again. How is that for Kansas? I also have a good crop of honey. I do not think the Japanese is as good for honey as the silverhull.

Quenemo, Kan., Oct. 18, 1889.

J. H. KENNEDY.

BURLAP OR ENAMELED SHEETS FOR WINTER;
WHICH?

Would you advise using enameled cloth beneath the burlap chaff bag on top of bees, for wintering? Would not moisture condense thereon, and make it unpleasant for them? Would not a double thickness of burlap just above the bees and under the chaff cushion be a good plan?

WM. C. BAKER.

Shanesville, O., Oct. 25, 1889.

[We take off our enameled cloths when or soon after we put on the cushions, and put in their place burlap sheets. One thickness of burlap is sufficient. The enameled cloths are objectionable, for the reason you name.]

TO SAMPLE HONEY IN THE COMB, WITHOUT MUTILATING.

I have a honey-quill for sampling honey, which will take the honey out of a single cell, of which I have seen no description, although it may be an old thing with bee-keepers. It is this: Take a quill of the right size at the large end; cut off the small end; push it down into a cell; put the thumb over the small end, and it will take out the honey of a single cell.

MARK COFFIN.

Milton, Ky., Nov. 26, 1889.

REPORTS ENCOURAGING.

FROM 50 TO 102, AND 4000 LBS. OF HONEY.

I started in the spring with 50 colonies. I increased to 102, and got 4000 lbs.—3400 of comb, and 600 of extracted. My bees are all in good shape to winter.

Chillicothe, Mo., Nov. 26, 1889.

GEO. W. BABB.

KEEPING BEES FOR RECREATION.

My honey crop is 115 lbs. extracted per colony, spring count. I keep the bees in the heart of the city. How is that for an engineer? I keep them for recreation.

R. B. HOLBROOK.

St. Paul, Minn., Nov. 7, 1889.

FROM 20 TO 34, AND 2380 LBS. OF HONEY.

I started with 20; increased to 34, and took 1520 lbs.—860 comb, and the rest extracted. This is my first year with bees. I am delighted with them. I put them in the cellar yesterday. I owe most of my success to GLEANINGS, which I could not do without.

G. L. HEAD.

La Valle, Wis., Nov. 21, 1889.

FROM 150 TO 240, AND 21,500 LBS. OF HONEY.

I commenced the season with 150 stands for extracted honey, and 8 for comb. I have extracted 21,500 lbs., and have taken 500 lbs. of comb honey, and increased to 240 stands. I kept them in two apiaries 6½ miles apart. I have sold all the honey at an average of 6½ cts. per lb.

ROBT. QUINN.

Shellsburg, Ia., Nov. 25, 1889.

As I have said nothing about my bees this year, here is my report: From 20 colonies, spring count, I secured 660 lbs. of extracted honey, and increased to 35. Honey was gathered from aster; too much wet weather through spring and summer to get any surplus. The honey from aster is splendid to winter on. Our winters are very mild. We have no packing to do. We just leave the bees on summer stands as they are.

S. L. KLUTTS.

Clear Creek, N. C., Nov. 15, 1889.

HONEY FROM RED CLOVER.

I put 28 swarms in cellar Nov. 15, 1888; took them out about April 15, 26 of them all right and two dead; no spring dwindling. I increased to 40, and extracted 1900 lbs., and had 200 lbs. of comb honey. The honey was from red clover. I have been noticing for years the reports of honey from red clover; and have also noticed that all the heavy work on it here has been on the mammoth clover, and the first year that it blossoms; after that it does not seem to amount to much for honey.

E. Z. GREEN.

Montague, Mich., Nov. 22, 1889.

FROM 14 TO 26, AND 1200 LBS. OF HONEY.

As far as I can learn, bees have done well around here. I had 14 hives last spring, now I have 26, most of them ten frames full of honey (I have no

extractor). I made over 1200 pounds of nice section honey, nearly all of it white. I had one large swarm come off the last of August. I put it in a nine-frame hive, and it filled and sealed all the frames. I have never known bees to make honey so late in the season, and so clear and white. I have no idea what they gathered it from.

Honey is in small demand here this fall, and but little money to be got on it.

Roseburg, Mich., Nov. 20, 1889. JNO. MITCHELL.

1000 COLONIES ON AN AREA OF FOUR MILES SQUARE.

There are at this time at least 1000 stands of bees here, located on land not to exceed four miles square. I have 204 stands myself in one place.

The sage and wild flowers make this county a bee's paradise; then there is the alfalfa, wheat, and corn they work on; and, in fact, all kinds of flowers. Now for results: I had 120 stands of bees last spring, and I divided about the middle of April to increase to 200. Every thing went nicely for about two weeks. They were making enough honey to live on; but the weather turned cold, and it snowed in the mountains clear down to the valley, on each side of the valley, which is about 15 miles wide here, and kept the weather so cold as to keep the bees in the hives, and about 30 of the divided hives starved before I knew it. The 28th of May, I divided again, and filled them up, and did not put on a super until the middle of June, which is a month later than usual here. Then I got 10,000 sections of nice white honey and 2000 pounds of extracted honey by the 15th of September, and all have enough to winter on. I took from one stand of bees this year, for another person, 254 sections of nice white honey, first class.

If you think this will do for a poor year, the next time you come to California just come down here from Reno, Nev., and see us.

Bishops, Cal., Nov. 11, 1889.

HENRY TRICKEY.

REPORTS DISCOURAGING.

HONEY CROP A FAILURE.

Honey in this locality is a failure this year, due perhaps to the excessive rainfall. The usual quantity of pollen was within reach of the bees, and I had much trouble from their storing it in the sections. I should like to know the conditions which give rise to such trouble. We never had this experience before. If any back number of GLEANINGS states the cause, I should like to have it.

Strafford, Pa., Nov. 9, 1889. CHAS. H. HARRISON.

VERY DISCOURAGING—GOING TO BRIMSTONE THE BEES BECAUSE THEY DON'T PAY.

You will have to put me in Blasted Hopes. I commenced last spring with 75 colonies, mostly strong; increased to 83, with 600 lbs. of comb honey; but this is not the worst, for I expect to have to sell for 10 or 12 cts. per lb., for I am informed of a lot of 8000 lbs. which sold for 10 cts. If this is not discouraging, please tell what is. In regard to reports encouraging, I think there are two discouraging to one encouraging, if they could be written up. You say, if one can not keep bees without brimstoning some, they had better go out of the business; but by the time this reaches A. I. Root, some of mine will be dead by its use.

NELSON DEWEY.

Adrian, Mich., Nov. 10, 1889.

OUR QUESTION-BOX.

With Replies from our best Authorities on Bees.

All queries sent in for this department should be briefly stated, and free from any possible ambiguity. The question or questions should be written upon a separate slip of paper, and marked. "For Our Question-Box."

QUESTION 150.—a. Taking one year with another, what is your average honey crop in pounds? and from how many colonies, on the average? State whether for comb or extracted. b. Do you think you would increase or decrease your annual income by keeping more than your present number of apiaries, and employing more help?

a. 100 pounds of extracted. b. I think we should make more income by keeping more apiaries and employing more help.

Wisconsin. S. W.

E. FRANCE.

a. I think something less than 40 lbs. of comb per colony, from about 200 colonies. b. Yes, if I could get the right help.

Illinois. N.

C. C. MILLER.

Until the past three years it had been 75 pounds, about 25 colonies. We could do better by keeping more. Indeed, we have increased to over 70 now.

Michigan. C.

A. J. COOK.

a. About 80 pounds of extracted, from an average of 100 colonies. b. Different apiaries in different localities would certainly increase the yearly income if they are well attended.

Louisiana. E. C.

P. L. VIALLO.

a. I consider 45 to 50 pounds of comb honey a good average yield, excepting in seasons of failure like the past in this vicinity. b. I think I could increase, but may be I would not.

Ohio. N. W.

H. R. BOARDMAN.

a. About 80 pounds during the past 17 years, with an average of about 45 colonies, spring count. Mostly comb honey. b. Increase by keeping more if I could attend to them myself; but I have too many "irons in the fire" to keep more.

New York. C.

G. M. DOOLITTLE.

a. I can not say. I have not kept a sufficiently careful record for about ten years to state positively. b. Decrease in this locality, with the poor seasons we have had during the past five years. If the apiarian expects a profit, he must do his own work.

Illinois.

MRS. L. HARRISON.

a. I am unable to say. Our last four seasons were too poor to keep a correct account. b. Poor seasons and prices of honey did not encourage myself and neighbors to increase our apiaries. The tendency is the other way.

Ohio. S. W.

C. F. MUTH.

My average honey crop for the last ten years figures about 1580 pounds. My number of colonies in spring has varied from 17 survivors of a winter, when my apiary mostly perished, to 121, when they didn't perish. The average is 77. To establish out-apiaries, and run them by hired help, would evidently run me behind hand.

Ohio. N. W.

F. E. HASTY.

a. I have no means of knowing what my average honey crop has been. Some years none, as in 1887 and '88. This year I have about 30 pounds per colony of surplus, and I guess it might be called comb honey, for it is still in the comb (brood-combs), and

all sealed over. b. That would depend upon the locality and the honey-flow.

Ohio. N. W.

A. B. MASON.

Between forty and fifty pounds per colony, from five hundred to a thousand colonies. Comb honey. We think we are entitled to about fifty pounds as an average, with good swarms. It is very doubtful whether the *net* income would be increased.

New York. C.

P. H. ELWOOD.

a. For the past 10 years my average sales have been about nine tons per year, comb honey, from an average of about 350 colonies. This is averaging the ten years, and is simply an off-hand estimate, as it would take too long to look up the exact figures. b. Yes, possibly for ten years to come, as I am learning more and more about the business every year, and especially how to economize.

Vermont. N. W.

A. E. MANUM.

a. 75 pounds to the hive, with about 300 hives to the apiary, extracted honey. b. If I had abundance of energy to expend I would have more apiaries; but not now feeling capable of looking after things rigidly, I am best off with a small number.

Larger boats may venture more,
But little boats must keep near shore.

California. S. W.

R. WILKIN.

I can not give exact figures for more than a part of the time, but I should estimate my average yield per colony at 45 pounds of comb, or 90 of extracted. This includes the season of 1886, when I did not get a hundred pounds of surplus from my whole apiary, and the very poor season of 1887. This was from an average of about 90 colonies, spring count. I think I could increase my income somewhat by keeping more bees.

Illinois. N. C.

J. A. GREEN.

a. Our average, for 15 years or more, is between 21 and 22 thousand pounds of extracted honey from 350 to 400 colonies. b. Our six apiaries are managed by a single man, excepting a few days when we are in a hurry to put the supers on the hives; then we employ another man; and when we extract we have work for two men and a boy besides our apiarist. We could increase the income by increasing the help and the apiaries, but it would involve more responsibility, and we do not wish to try it.

Illinois. N. W.

DADANT & SON.

a. My average crop for about ten years was a minute fraction over 110 pounds per colony, mostly extracted. In estimating yields, I count all colonies there are in the yard, both large and small, at the commencement of the honey-flow, before any new colonies are made. Number of colonies varied from 30 to 140, and averaged nearly 100. My best average yield was from 108 colonies, spring count. b. Annual income would be decreased unless the number of colonies was increased as well as the number of apiaries.

Cuba.

O. O. POPPLETON.

Our greatest yield from an apiary has been 100 lbs. per colony. Certain colonies ran up to over 200 lbs. Our average yield has been not far from 40 lbs. per colony, for a series of years. Extracted honey, and from 150 colonies. b. It has been our endeavor to increase our colonies, and establish out-apiaries. We have thus far employed but little help to run two apiaries. A very little more help

at the right time would enable us to run two more apiaries, with increased income.

New York. E.

RAMBLER.

I can not answer this question. I have not kept a record. It lies between fifty and a hundred pounds of extracted honey, taking all of the years together, I presume. Where one sells bees, both spring and fall, changing his number of colonies constantly, and raising both comb and extracted honey in the same apiary, as well as increase, unless he keeps a careful record - book it is impossible to answer question a. Question b. is also just as knotty. I know but very little, and believe but very little, in regard to overstocking. As far as the help question is concerned, it would be very profitable to increase the number of colonies, for the cost of help pro rata would decrease. That is one point against out-apiaries; but in regard to overstocking, 21 years' experience is not enough for me. Although I have taken much pains to pump such bee-keepers as I met, who ought to know most about it, I must say I have never yet found one who could shed one clear ray of light on the subject. It is the most obscure problem in bee-keeping, that of overstocking, and yet very much hinges on it.

Michigan. S. W.

JAMES HEDDON.

a. The last four seasons, my honey crop averaged 29,000 pounds extracted and 500 pounds of comb honey, from 250 to 300 colonies, spring count. Four years ago I had only 8000 pounds for my crop, having lost a large proportion of my bees the previous winter. b. How can I tell what I could do till I try? Do you suppose Grant, Lee, Sherman, and other officers in the late war knew what they could do until they tried? Trial proved their capacity to vary greatly. Some were competent to handle 100,000 men or more. The outside limit of others was 10,000, and others proved themselves unfit to handle any. As in war, so in bee-keeping and other pursuits. Capt. Hetherington has proved himself competent to manage a large number of colonies; so did Adam Grimm; so did Harbison, till he found something to suit him better. In my own case I at one time thought of running up into the thousands; but poor health warned me to curb my ambition. At present, had I the strength and inclination, lack of pasturage and locations would bar the speculation; for should bee-keepers increase in the future as they have in the past two years it would soon be hard to find an unoccupied field.

Wisconsin. S. W.

S. I. FREEBORN.

Well done, friends. A beginner might well take courage from the above replies. Yet there is, however, a glimpse now and then of blasted hopes. I notice, also, that a good many of the friends have settled down to the idea that they prefer to take life a little easier, even if they do lose some dollars that might be made by shouldering more responsibilities. There is a good point here. I now call to mind quite a few among the bee-friends who have made their lives unhappy and perhaps unprofitable by trying to do too many things, or, if you choose, too much. Better have a little, and do it well, than to attempt great things, and be for ever worried to death, and in hot water all the time. Many of us are a little older than we were fifteen or twenty years ago, and I trust, also, a little wiser. Contentment is better than riches.



Every boy or girl, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN, ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from \$1.00 to \$1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock six different books, as follows; viz.: Sheer Off, Silver Keys, The Giant-Killer; or, The Roby Family, Rescued from Egypt, Pilgrim's Progress, and Ten Nights in a Bar-Room. We have also Our Homes, Part I., and Our Homes, Part II. Besides the above books, you may have a photograph of our old house apiary, and a photograph of our own apiary, both taken a great many years ago. In the former is a picture of Novice, Blue Eyes, and Caddy, and a glimpse of Ernest. We have also some pretty little colored pictures of birds, fruits, flowers, etc., suitable for framing. You can have your choice of any one of the above pictures or books for every letter that gives us some valuable piece of information.

GRANDPA'S BEES.

My grandpa has 16 colonies of bees. He has one hive on a large rock. He makes bee-hives. He has a sawmill. He runs the mill by horsepower.

WILL HARRINGTON, age 11.

Setley, Pa., Nov. 28, 1889.

Papa has 45 swarms and 10 Simplicity hives. He has some Italians, blacks, and hybrids. He doesn't like the hybrids very well, but he likes the blacks best. He did lose two swarms. We take GLEANINGS, and expect to for sometime.

ELIJAH B. WILSON, age 11.

Blaine, W. Va., Nov. 21, 1889.

AN OLD LADY 94 YEARS OLD.

I was over to Uncle Henry Bixby's. He takes GLEANINGS. My papa lives on a rented farm, and takes care of an old lady. She is the oldest person in the town of Hornby. She is in her 94th year. She reads her Bible without glasses, and she can go upstairs as spry as a cat. I am 11 years old, and love to go to Sabbath-school. Uncle Henry Bixby, as we children call him, is our pastor and superintendent. We all love him.

MATTIE FERRO.

Dyke, N. Y., Oct. 13, 1889.

HOW A BOY MADE HIS BEES PAY.

I am 14 years old; and having a desire to learn the bee-business, last spring I bought a colony of pure Italian bees, for which I paid \$6.00. This season they made 30 pounds of nice comb honey, besides being in good shape for winter. I have sold enough honey to pay for GLEANINGS, and think it is a valuable paper for bee-keepers. I bought your A B C book last spring, and have learned a great deal about bees.

CHAS. V. HOFFMAN.

Sidney, N. J., Nov. 25, 1889.

EARLY-POLLEN GATHERERS.

For five years past I have been writing to you annually, when the bees commenced bringing in pollen. In these five years they commenced about the first of February each year. This year they commenced bringing in pollen on the 16th of January, from the water or white elm. This is a large tree growing on the river, and buds very early. The pollen brought in was of a canary color, and very soft. My pa closed the season with 102 colonies; but after uniting several he went into winter

quarters with 82. These he wintered on their summer stands in Simplicity hives, and protected them from the cold northerners by a high plank wall.

LIZZIE L. MULLIN, age 13.

Oakland, Tex., Jan. 22, 1889.

BEES AND FRUIT; VALUABLE TESTIMONY OF A LITTLE GIRL.

We saw in your journal that some think the bees eat the grapes; but my pa does not think they do, unless the little ruby-crown kinglet bird makes a tiny little hole in them. We have 75 hives of bees, and have sold six tons of grapes. We have a large peach and apple orchard, and the bees do not disturb them.

MARCIA HOPKINS, age 11.

Brownhelm, Ohio, Oct. 20, 1889.

LILLIE REPORTS A GOOD YIELD; WHITE FALL HONEY.

We got from 35 colonies, spring count, about 6000 lbs. of honey this year, and increased to 70. The clover season lasted about two months before linn bloomed. After the linn and clover were gone we had a good crop of fall honey. There were about 10 hives of comb honey that were partly filled before the fall flowers bloomed, and we did not take the honey off from them until October, and it was as white as the clover honey that we got in June. Is it possible that they could have finished them with any thing but smartweed, Spanish needle, and the other fall flowers? We have the Syrian bees, and have not been troubled with robbers this fall, as usual, but we have had one or two stolen.

LILLIE GRAHAM, age 13.

Agency, Mo., Oct. 28, 1889.

Friend Lillie, it is hardly possible that Spanish needle or other ordinary fall flowers furnished light honey. Smartweed might come a little nearer to it, but I am inclined to think your light honey came from red clover—that is, if there is any in your vicinity.

A REPORT FROM A GERMAN APIARY; CAN WE WINTER ON THE ROOF OF THE HOUSE?

To-day papa is hauling bees. They have done very poorly this year, and in one of our out-aparies we had some of the honey and bees stolen. It seems we had hard luck with bees this year. Some of our swarms got lost. Of August swarms we had plenty, but they all went to the woods. In another out-apiary we lost about one-third by moths and poor fields. Our last report from Germany says it looks far better there. Hives are all full, both straw and wooden hives. Buckwheat and heather have had good weather, and our bees are in the middle of both. This winter papa is going to put his bees on the roof, as our home apiary is too small, on account of new buildings. I should like to know about wintering on the roof in well-packed chaff hives. We have tried a few last winter with success. Papa doesn't like cellar wintering, as we live in the city.

ANNA BLANKEN, age 12.

Jersey City, N. J., Oct. 24, 1889.

Friend Anna, bees could probably be wintered quite successfully on the roof in Jersey City. Friend Muth, in Cincinnati, has wintered his so, for years, quite successfully. I should prefer to have them on the roof of a wing of a house, so that the taller portion, or the house proper, might extend higher, and keep off the north or west winds.

OUR HOMES.

He that is slow to anger is better than the mighty; and he that ruleth his spirit than he that taketh a city.—PROV. 16: 32.

DECEMBER 7 was a beautiful sunshiny day; in fact, it seemed more like April or May than December; but at the Home of the Honey-bees we were exceedingly anxious that it should be a fine day. The foundation for our large reservoir was already finished, upon the hill near the factory. The staves for the great tub were piled up close by. The windmill, pump, and other machinery, were all in readiness, and the man was expected on the morning train to "boss the job" of putting the machinery in place, and rearing the whole structure. We telegraphed him to come the day before; but as it was rainy we did not feel very bad when we found that he did not come. When the sun, bright, clear, and warm, shone out on the day in question, however, we felt very anxious. Our people are all interested in the matter, and the workers in wood, metals, dirt, brick, stone, etc., were almost as anxious as I to see this individual who travels from place to place bossing the erection of such structures. Sure enough, he got off the train. After a few brief questions he told the carpenters what to do; then the masons were set at work; then the ditchers commenced in the trenches, to put in the great wooden pipes, down out of the way of frost, and all worked with a will.

I now wish to digress from my story a little right here, to consider this matter of bossing others, or, if you choose, of taking charge of a number of men. It comes a good deal in the same line as taking charge of out-apiaries—having several apiaries instead of one. How is it that some have a gift in that line, and others have not? The man who came to put up our waterworks receives four dollars a day, and all expenses. There is nothing about him at first sight to indicate that he is much more than a common day laborer; but the great firm of Fairbanks, Morse & Co., who put up such works, and guarantee them against leakage, etc., gave him an excellent recommendation. They said, that whatever work he put up never had to be done over afterward. This is a great thing, I grant, and I watched our new friend anxiously to see how he had earned this high reputation. I soon discovered that it was almost altogether in giving his personal supervision to every little point. I presume he has usually two or three men to help him—possibly four. Here at the Home of the Honey-bees we are in the habit of setting a dozen, or perhaps thirty or forty at work all at once. This man insisted on doing every thing himself, pretty much. His helpers are simply waiters. They handed him the tools, and held the pieces while he drove the nails or turned the bolts. He was not satisfied unless he had the wrench in hand and tried every nut and bolt before he left it. With the years of experience he has had in putting up similar structures, and perhaps in repairing faulty ones, he

knew just where to expect something to give way. He never broke a bolt or bursted a joint by turning it too hard; but every thing was turned up just about as far as the strength of metals or wood would allow. He never said, "I guess that will do well enough," and let it go. If a bolt turned in its place, or if a nut slipped a thread, it had to be taken out, and a new one put in its place. Undertaking such kind of work in December was exceedingly risky, and I was very anxious indeed to have the whole arrangement moving at once, from the factory clear to the top of the reservoir and windmill tower. I am so much in the habit of being "boss" of every thing on the premises, it tried me exceedingly to be obliged to await the movements of a single individual. I could have my choice, it is true; but if he did not have every thing just as he wanted it, the company would not be responsible for a failure of some part of the work. It was quite a cross for me to bear; but, dear friends, it did me good. It was just the discipline I needed, pretty nearly if not quite in a line with the above thought in our text. Now, in our work here, no one is ever idle. Strangers who come here to work are often a good deal surprised, and sometimes feel hurt, because they are told that nobody ever need wait for somebody else during working hours. A few days ago a friend of mine hired three men to come and help him thrash. The machine did not get along, and so they sat down and loafed the whole half-day, waiting for the machine to come, and he had to pay them full wages. I have never done such a thing in my life. I would have told those men to pick up stones from the field, gather up rubbish and cut it into firewood, dig ditches, slick up the yard, pull weeds, straighten water-courses, fix the fences, straighten up the underpinning under buildings before it gives out, or something of that sort. I do not believe that I ever saw a homestead where I could not set half a dozen men at work profitably for half a day or several days—that is, more profitably than to sit still and wait for somebody else. Very likely I have a special gift in this direction.

As this is a matter of exceedingly great importance to most of our readers, I wish to digress still a little further to tell you how I learned it. It came about principally in the effort to find employment for people whom I wished to benefit. To come right to the point, I think I may say, because I wished to bring them to Christ Jesus. I have taxed my wits and my abilities day and night, for perhaps twenty years, in this direction. Sometimes, by an unexpected occurrence, three, four, or half a dozen men are stopped in their work, and they come to me. Perhaps others are waiting for me besides. My plan is this:

I first say, "Boys, just stand right still, just a minute; don't go away, any of you, until I give you leave. Here, George, you pick up stones over in that field."

"All right," says George; "but where shall I put them?"

"Put them in little heaps until I get ready to tell you. Willie, go to the fruit-

house and get a wheelbarrow full of potato-boxes. Get the oldest ones you can find. Fred, get a hoe and give the asparagus a most thorough cleaning-out. Do it so I can't find a weed nor a blade of grass. Now look sharp, and don't skip any. Mr. W., take your spade, and look out for the outlet to all the underdrains. See that they are exactly as they ought to be," etc.

Now, I know by experience that most of them—perhaps all of them—will misunderstand, and must be looked after. The one who went to picking up stones, will, if he is a small boy, perhaps spend time in picking up stones so small that they do no harm. He must be furnished a sample, and told not to go under that size. The boy who is to clean out the weeds may waste time in looking for a tool, and perhaps he would get the wrong patch. The one who went after the boxes must be told what to do next when he comes back. Very likely Mr. W. was not with us when the underdrains were all located, and therefore will not find the outlets without showing. So I hurry around from one to another, meanwhile reviewing the work to see if there is not something of still more importance than that which the boys were started at hastily. At such times I almost always find something or other that was in very great need of attention, so nothing is lost. Now, my friend, you may think it a little strange, but I have, by years of experience, learned to set over a hundred people at work in just this way, and not only manage it all profitably, but I enjoy it; yes, it gives me a kind of happiness that I can not find otherwise, and that I enjoy almost as much as any thing else in this world, furnishing my friends and neighbors the wherewith to earn their daily bread by honest, ennobling toil. Of course, I commenced on a small scale. At first I had one man to help me. When we two could lay up money, a third was called in, and so on. You may say, we can not all do this kind of work. True; but there is an unceasing demand—a constant and increasing unfilled want for men who can boss others. Now, then, you can never make any progress at all in this line 'until you can rule *self*. This new friend I have been speaking of does his work a great deal better than I do. It would hardly be safe to trust me with an important work of engineering where much money and may be human life depended on the result. In fact, I learned long ago not to trust my judgment and experience alone in such matters. Able and experienced mechanics in wood, stone, earth, and metals, are my companions; and it would be folly for me to rush stubbornly against their better judgment. Sometimes we hold counsel, or call in the aid of mechanics, machinists, etc., but I am always troubled and worried to find that these careful, high-priced men, let those under them waste time. Sometimes expensive men are kept on hand, even though they work less than half of their time. I am told that there is no other way. In almost every department of knowledge, science, art, and industry, I come every little while to the point where I long for something more than

human. I want great accuracy, combined with an ability to look after a great number of people all at one time. Very likely these two qualifications never existed in any single individual; but by putting a good many heads together, however, we accomplish what no one man ever could accomplish. And may God be praised that it is so! We are dependent upon one another, and if we do not work together with a cheerful and friendly good will we shall never succeed in doing great things. Now, then, friends, with your permission we will go back to our story of that bright sunshiny December morning. It needed your old friend, A. I. Root, at almost every turn, to tell the builder just what his ideas were, and how he would like to have things arranged. For instance, some bolts were wanted that we did not expect to need, and so a boy had to go half a mile after them. The ditchers, too, needed a little caution. They were digging the trenches wider than they needed to be, thus throwing out dirt uselessly. Lumber was wanted from the planing-mill; somebody could not find the tool he wanted; several things at the factory needed looking after, for John and Ernest were both attending the national convention at Brantford. One or two new hands had made their appearance, and wanted to be shown where they were to work. Before noon the printers wanted copy, or instructions in regard to it, that must be seen to personally by A. I. Root, in the absence of Ernest, the assistant editor. I went through it all pretty well, however, until symptoms of waning strength began to remind me that it was time for my noonday nap. I looked at my watch, and I found that, if I made a bee-line for my accustomed lounge, I should have just time to make it. The day was so fine, and so many things needed my personal attention, that it seemed almost folly to think of going off to *sleep* when everybody was so busy, and in so much danger of going wrong if I did not happen to be within hailing distance. I remembered, however, that I should not only suffer during the half-hour that has so long been set aside for my accustomed nap, but I knew I should be unfit for clear and cool judgment all the afternoon. I have tried it repeatedly; but unless I have my noonday nap I feel about as most of you do who have been kept awake all night long. The plain, wise thing to do was to drop business and seek rest. Quite a few got in my way. Some wanted employment; others wanted to hinder me with idle, unimportant questions; and as I almost reached my home I became quite nervous and fidgety. Some little girls were coming along the walk, but I felt too much exhausted and used up to feel capable of giving them even the smiling and pleasant "good-morning" that I knew I ought to give. I was in a hurry, for the minutes were precious. At such times when I am pushing blindly ahead for my lounge, even a *quarter of a minute* seems a hindrance. I long to be out of sight, and away from everybody, where I need not even *smile* unless I feel like it. Now, do not imagine, dear friends, that at such times I feel par-

ticularly cross. I feel kindly and pleasantly toward everybody; but, oh, how I do wish to be just let alone! A good old lady who lives in the neighborhood has sometimes tried me exceedingly by insisting on replies in regard to the weather, the state of the roads, etc. Why, I have actually left the sidewalk and pushed off through the apiary, simply to be excused from talking, or using my brains when they were already *used up*. Well, I pushed away over to the opposite side of the walk, that I might let the little girls pass, without slacking up my rapid footsteps. One of them was accompanied by a little yellow dog. At sight of me, with my rapid movements, he seemed to think it incumbent upon his dogship to bark and growl; and when I stepped clear off the walk to evade him, he flew at me, snapping and snarling, and, in spite of all I could do, he grabbed me by the leg and bit me quite severely, although he did not draw blood. I tried to kick him, but he was too adroit, and I was too tired to use much strength. I made up my mind that any dog that thus molests peaceable passers-by ought to be killed, and so I looked for a stone or stick to put my "project" into execution. The dog watched me as closely as I watched him; and, probably noticing that I could not find any particular stone, he attempted to bite me again. I have sometimes said that I never wanted a pistol. Just then it occurred to me that such an implement would be *exceedingly* convenient. Ernest has a shotgun, but he was away, and his house was locked up. Uncle Hen, also, has one to kill rats; but I could not see him anywhere in sight. It would have been a real luxury just then to offer somebody a five-dollar bill to make sure work of that obnoxious "yaller dorg." Just then it occurred to me, "Look here, old friend A. I. Root, it strikes me you are considerably stirred up. Hadn't you better cool off a little?" I did not say anything out loud, but I said to myself, "The good of passers-by and community at large demands that that dog be *killed*."

"Very likely it does; but the minutes are passing. Which is of the most importance—that you have your nap, and the clear mental vision that will come after it, or that you set the little girls to weeping by killing their pet dog—that is, if you are *smart enough* to get him killed by using up your whole half-hour of rest?"

I looked—was it viciously or wistfully?—toward the dog. I made some big resolutions as I gave him a farewell glance while he went off wagging his tail. I succeeded in gaining my coveted place of rest and retirement, but I was too much stirred up to get to sleep. The little voice resumed:

"Look here, my friend; do you expect to get to sleep when you are vehemently planning ways and means of putting that dog out of existence? Why trouble yourself by rehearsing what you will say to the owner when you meet him after dinner? and, my friend, how does your present mood harmonize with the little text you are in the habit of thinking over and over, as you loose consciousness?"

I will both lay me down in peace, and sleep; for thou, Lord, only makest me dwell in safety.

Then came the thought, "It is a bigger task than I am equal to." By and by another text followed, something in that line:

I can do all things through Christ which strengtheneth me.

The twinges in the calf of my leg where the dog bit me still tended to rouse combative feelings, and for a little time I feared I was not going to make the desired haven. Then I remembered the time when I "laid me down in peace to sleep," when the factory warehouse was burning. "Shall a poor mistaken yellow dog spoil my usefulness, spoil my temper, and spoil my rest during this bright day when so many responsibilities are resting on my shoulders, and when I am needed so much?" Then came thoughts in the line of that beautiful little text, at the head of our talk to-day:

He that is slow to anger is better than the mighty; and he that ruleth his spirit than he that taketh a city.

And I conquered the bad spirit. I slept, and woke up just as the whistle was blowing, refreshed in mind and body, and with praise and thanksgiving in my heart. If fifteen minutes of sleep can work such a miracle to others who are subject to nervous exhaustion, I shall do good service in urging upon tired and exhausted humanity this God-given remedy—this plan of invigorating without medicine. When I glanced at the hill as I hurried toward the factory, one of the staves of the great tub was raised aloft, clearly and sharply defined against the blue sky. Before I had passed the hundred yards between my residence, and the factory where the notes of the organ proclaimed the noon service begun, three more staves were placed beside the first one, and I felt happy, and for several reasons. I had ruled the spirit that would do me harm. It may not have been a very evil spirit, it is true; but it was one that would have unfitted me for my task had I listened to it; and I felt happy, too, to think that the better spirit had triumphed—that *A. I. Root* had effectually, calmly, and coolly and deliberately *ruled*, and not a sudden impulse. Do you wish, dear reader, to know the fate of that yellow dog? Well, so far as I know he still goes about on four legs; but I hope not, however, abusing people who are attending to their own affairs on their own premises, as he abused me. I still think, however, that he and all of his race that have *that* disposition should be abolished from—sidewalks. May be they ought to be extinguished completely from the face of the earth. If a majority of the community should so decide, all right; but in handling all these questions we should remember there a multitude of tastes to consult. Dogs have seemed to me to be a rather useless appendage to society, therefore I am not a fit one to judge. I have not yet spoken to the owner of the dog, neither do I know the laws of our land in regard to cases of this sort. This I do know, however, that whatever needs to be done should be done in a line of the little text which says, "If it be

possible, as much as lieth in you, live peaceably with all men."

The big reservoir is now finished, and over it the windmill spreads its wings, almost ready to commence its task of keeping the great tank constantly full. It stands against the sky "a thing of beauty," and I hope it may prove to be "a joy forever" to the community round about it. We have already been discussing placing upon it in great letters, so that they may be read for half a mile or more, the little text that has been so much a favorite of mine for a few months past: "Not to be ministered unto, but to minister." One of the friends has suggested another good one, if it were not so long, to be written in great letters between the hoops: "Whoso drinketh of this water shall thirst again; but whoso drinketh of the water that I shall give him, shall never thirst."

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, OHIO.

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For Clubbing Rates, See First Page of Reading Matter.

MEDINA, DEC. 15, 1889.

Seest thou a man diligent in his business? he shall stand before kings; he shall not stand before mean men.—PROV. 22: 29.

AN ERROR IN DISTANCE.

OUR good friend M. H. Hunt, of Bell Branch, Mich., calls my attention to the fact that I stated that he lived four miles from the depot, whereas he is only two and a half miles away. As some of his customers might think he did not tell the exact truth in his catalogue, I make the correction and beg pardon.

TILLINGHAST'S FLORAL ALBUM.

THIS is a beautiful collection of chromos of all of the principal flowers in cultivation, including most of the honey-plants, and all in their natural colors. To those who wish to know what our honey-producing flowers look like, and to be able to identify them at a glance, it should be worth a good deal. See advertisement in this issue.

CHRISTMAS PRESENTS.

WE present, along with this number, to all our readers, with compliments of the season and our best wishes for the new year, a Christmas souvenir in the form of a 16-page picture-gallery. We have not yet reached the 10,000 mark, and we trust this souvenir will be a reminder to our many friends to make an extra effort to get their share of the number of names necessary to make it 10,000 by Jan. 1, and thus return the compliment.

A NEW PRESS FOR GLEANINGS.

ABOUT the first of February, GLEANINGS will be printed on a brand-new 16-page Campbell oscillator book-press. Our old one has been obliged to run

almost night and day for several weeks, and we concluded that we should have to have something that would do the work more rapidly, or else decrease our subscription list. The press is the latest in design, and is the best book-press we could purchase. It will cost \$2500. We are aiming at the highest perfection in the printer's art; and while we are not at all ashamed of our past record as printers, we hope to do even better.

THE NUMBER OF PAGES IN A VOLUME OF GLEANINGS.

THE present volume scores 1024 pages. We shall probably do the same, or perhaps better, next year. We call the attention of our readers to our large index of illustrations, and also to the topical index. We have left out our usual index of correspondents, as we thought it to be the least valuable of the three. It takes an immense amount of labor and painstaking care to get it out; and we believe our readers will prefer the same energy expended in other departments of the journal.

FIRST-CLASS POULTRY WANTED.

WE are having quite a good many inquiries, especially of late, in regard to fine poultry. Letters read something like this: "Mr. Root, could you furnish me a nice pair of Plymouth Rocks? If not, please give me the address of some good man." Somebody else wants Light Brahmas, and so it is with the other standard breeds. Now, if I should undertake to sell poultry with all the other business I have, I might go crazy; therefore I should like to have some poultry-breeder among our bee-folks keep a small standing advertisement in GLEANINGS. It seems to me that the business ought to pay, with the prices poultry-breeders seem to be getting. I picked out a trio of Light Brahmas at our county fair, that suited me very well. But what do you suppose the owner wanted for them? Only \$6.00!

DELUGING EDITORS WITH FACTS ABOUT COMB HONEY.

SOME time ago the Chicago *Herald* repeated the old comb-honey slander; namely, that about comb honey manufactured artificially, filled with glucose, and capped over with appropriate machinery. Brother Newman wrote them a very courteous and gentlemanly letter, pointing out their mistake. We also wrote them, forwarding one of our \$1000 reward cards. It seems, also, that bee-keepers from all points of the compass deluged the editor with letters. The *Herald* for Saturday, Nov. 23, finally comes out with a long article on bees and their work, giving some facts in regard to the honey-business, how foundation is made, etc., although it clings to the idea that the liquid article is adulterated to a certain extent. It says, after the first statement appeared in the *Herald*, in regard to adulterated or manufactured comb honey, it "was at once inundated with a flood of letters from bee and honey men, who declared that honey-comb can not be made, filled with honey, and sealed with appropriate machinery so as to escape detection in the market; and," it says, "this statement is doubtless true." Right here is a very suggestive fact: There is nothing in the world that will have such an effect upon editors who have misrepresented our industry as to deluge them with letters, not from editors of bee-papers alone, but from the subscribers themselves. A flood of letters from bee-keep-

ers far and wide will have vastly more effect than letters from two or three editors of bee-papers alone. We hope our subscribers will remember the hint, and deluge the next offending paper.

CRAZY EDITORS.

It is the editor of GLEANINGS IN BEE CULTURE I have in mind, and not that of any other periodical. This crazy editor, after publishing a pretty fair journal for almost 17 years, toward the close of the 17th year it seems has got into a fashion of attaching an answer intended for one correspondent to an article written by another one. The first appeared in our issue of Nov. 15, at the end of friend Manum's article. The boss printer said he wanted about so many inches of matter to fill up a given space. I understood him—or at least I got it into my head—that the space was after friend Boardman's article entitled "A Model Bee-yard," therefore I gave the printers the required amount of copy for the matter in view. Turn to page 886, and read the last half of my reply to friend Manum, and you will understand it. In the same issue, on page 893, is a short item, headed "Rat-tailed Maggots." I dictated a reply to this, which, for some reason or other, did not show up on the printed page. It, however, does show up, greatly to our consternation, at the end of Prof. Cook's excellent article on cuckoo-bees, page 947. It is not such a terrible matter, it is true, but it gives one who turns the pages of GLEANINGS an impression that its editor has his head filled with reservoirs, windmills, or something else, besides the business in question. We hope that at least 16 years more may pass before we ever have occasion to make such a lengthy apology again, at least in this line.

The foot-note to the article on cuckoo-bees should have read as follows:

Friend Cook, you say these strange intruders are only males and females. Now, a host of perplexing questions come in here. Is every female a queen? If so, who shall fix the limit of their increase if they fill up hives with brood, and the bees take care of them? Do the males and females meet in the open air, as do honey-bees? and if they winter over in the hive, why do they not continually occupy all of the available cells with eggs? Very likely, where every worker-bee is a queen they are not all as prolific as a honey-bee queen—at least we hope not. It seems to me, however, that it must be that our honey-bees recognize them sufficiently to be able to make, at least to a certain extent, some resistance against their encroachments; for if they do not, what is to hinder the colony from being ruined at once?

Friend Cook writes as follows:

Don't worry about the mistake in GLEANINGS. We enjoy seeing that you occasionally make mistakes. It makes us feel more akin. A. J. COOK.
Agricultural College, Mich.

CONVENTION NOTICES.

The Erie Co., N. Y., Bee-keepers' Association will hold its next meeting in Concert Hall, Holland, 10 A.M. and 1 P.M., Dec. 18, 1889. An interesting programme is provided.
South Wales, N. Y. Mrs. CHAS. FAVILLE, Sec.

The 21st annual meeting of the New York State Bee-keepers' Association will be held at the Court-house, Rochester, N. Y., Feb. 5, 6, 7, 1890. Reduced rates at hotels, and on all principal railroads. Each county association is requested to send two or more delegates. Programme and full particulars will appear in due time.
G. H. KNICKERBOCKER, Sec.

The 24th annual meeting of the Michigan State Bee-keepers' Association will be held at Lansing, in the capitol building, Dec. 26 and 27, 1889. Reduced hotel rates at the Hudson House. Half fare on nearly all railroads. A few charge one and a third fare for the round trip. All are cordially invited.
Clinton, Mich. H. D. CUTTING, Sec.

The next annual meeting of the Ontario Bee-keepers' Association will be held in the City Hall in the city of Belleville, Ont., on the 8th and 9th of January, 1890.
Streetsville, Ont. W. COTSE, Sec. O. B. K. A.

The next annual meeting of the Vermont Bee-keepers' Association will be held at Burlington, Vt., Jan. 21, 22, 1890. Excellent hall accommodations have been obtained at the Van Ness House. The Vermont Central Railroad has granted round-trip tickets from the following places: Rutland, White River Junction, Cambridge Junction, Richford via St. Albans, Ticonderoga, and intermediate points, to Burlington and return, for fare one way. A good meeting is expected, and all are invited. For further information and programmes, apply to
J. H. LARRABEE, Sec'y.

Larrabee's Point, Addison Co., Vermont.

TOBACCO COLUMN.

CONDITIONS UNDER WHICH WE GIVE SMOKERS TO PERSONS WHO STOP USING TOBACCO.

First, the candidate must be one of those who have given up tobacco in consequence of what he has seen and read in this department. Second, he promises to pay for the smoker should he ever resume the use of tobacco in any form, after receiving the smoker. Third, he must be a subscriber to GLEANINGS. Any subscriber may, however, have smokers sent to neighbors or personal acquaintances whom he has labored with on the matter of tobacco-using, providing he give us his pledge that, if the one who receives the smoker ever uses tobacco again, he (the subscriber) will pay for the smoker. The one who receives the smoker in this case need not be a subscriber to GLEANINGS, though we greatly prefer that he be one, because we think he would be strengthened by reading the testimonials from time to time in regard to this matter. The full name and address of every one who makes the promise must be furnished for publication.

I am endeavoring, in a quiet way, to arouse the parents of school children to the dangerous and deadly effects of the tobacco habit, in order to have them demand of the school boards that they enact and enforce such rules and regulations as will effectually prohibit the handling and use of tobacco upon the school grounds, and the refusal to hire or employ, as teachers, persons addicted to the use of tobacco. "Children are the seed corn of the State," and every good citizen should feel called upon to guard and protect them during the tender years of indiscretion and thoughtlessness against tobacco and strong drink. Your name has been furnished me as an unselfish patriot, a lover of humanity, and one pledged to the reformation of evil and vicious habits. I sincerely trust you will lay your ax at the root of the crying sin of this country, and enlist the educators and philanthropists of Ohio in extirpating the tobacco habit from the public schools of Ohio.

J. B. PRICE.

Jefferson City, Mo., Nov. 3, 1889.

GOING SECURITY.

Please send one of your smokers to Mr. S. A. Miller, Cantril, Iowa; and if he breaks the rules, I will agree to pay for the smoker.

Cantril, Ia., Aug. 6, 1889. ANNIE K. MILLER.

One of my neighbors has quit using tobacco after using it 35 years. If you send him a smoker, I will pay for it if he uses it again. JOHN MCCARTHY.

Madelia, Minn., May 18, 1889.

I have stopped the use of tobacco in all ways and I advise others to stop it. I don't want a smoker, for I have one. O. W. JEFFERSON.

Acmé, Mich.

I have been a great slave to tobacco for the last ten years; but by the help of God and a sample copy of GLEANINGS I quit the use of it nearly one year ago; and if you will send me a smoker for my pledge I will pay you for it if ever I use tobacco in any way again. A. J. HUSKEY.

Ingletton, Ala., June 6, 1889.

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SUPPLEMENT.

PICTURE GALLERY OF GLEANINGS IN BEE CULTURE.

DURING the 17 years in which GLEANINGS has been published, a large number of fine engravings of apiaries and bee and honey exhibits have been presented to the readers. They were executed at considerable cost, and are also suggestive of many ideas with regard to apiaries and apiarian exhibits. Those of the better sort we take great pleasure in presenting to our readers again, in the shape of a souvenir, and we trust it will be appreciated. Our list is double, and in some instances perhaps three times the size it was when the pictures originally appeared, and hence to the majority of our readers

they will be new. Perhaps we should remark, that these engravings will appear in the A B C of Bee Culture, just after the biographical sketches. The two together will give an excellent idea of prominent apiarists, and of their apiaries; of prominent honey-men and of their honey-exhibits, from all parts of the world. While it is not possible, by reason of space, to give descriptive reading-matter for each, we have indicated the page and volume in which full details can be found. If you do not happen to have the required back number, describing a certain exhibit or apiary, send 10 cts., and we will mail you the desired number.



A. E. MANUM'S SIDE-HILL APIARY; SEE GLEANINGS, PAGE 665, VOL. XVII.



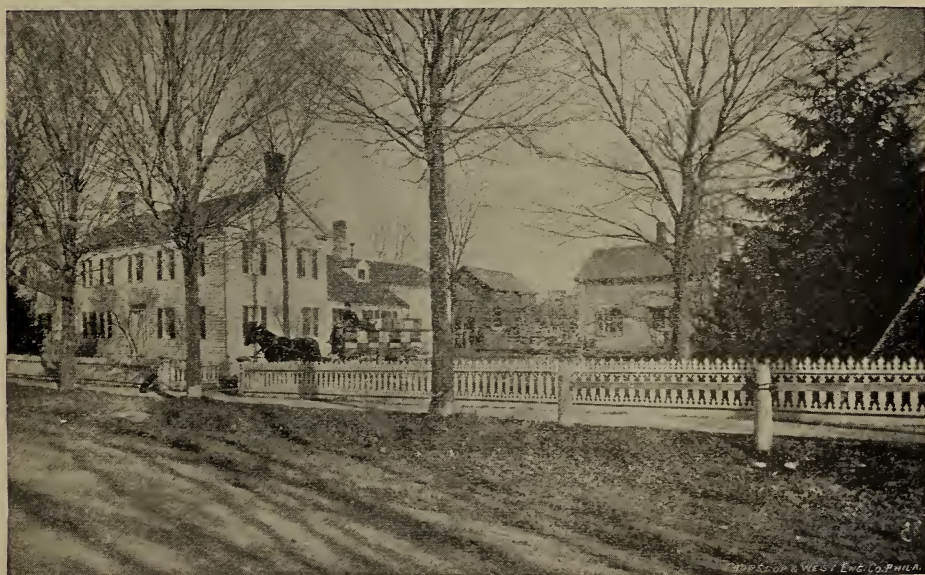
O. J. HETHERINGTON'S BEE-RANCH, NEAR EAST SAGINAW, MICH.; SEE GLEANINGS, PAGE 840, VOL. XVI.



A. E. MANUM AND HIS HELPERS IN HIS BEE-YARDS; SEE GLEANINGS, PAGE 665, VOL. XVII.



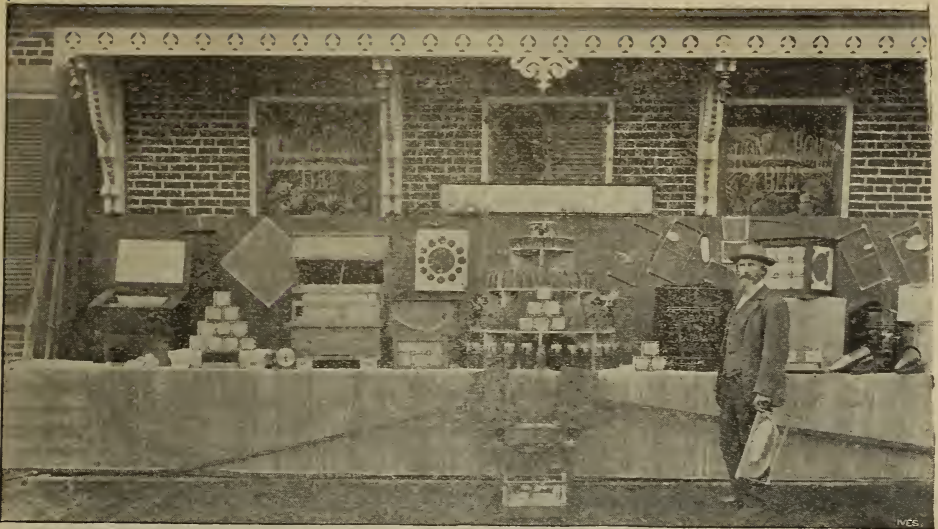
M. H. HUNT'S CHAFF-HIVE APIARY, BELL BRANCH, MICH.; SEE GLEANINGS, PAGE 625,
VOL. XVII.



CAPT. J. E. HETHERINGTON'S HOME, CHERRY VALLEY, N. Y., WITH LOAD OF 32 COLONIES
IN THE FOREGROUND.



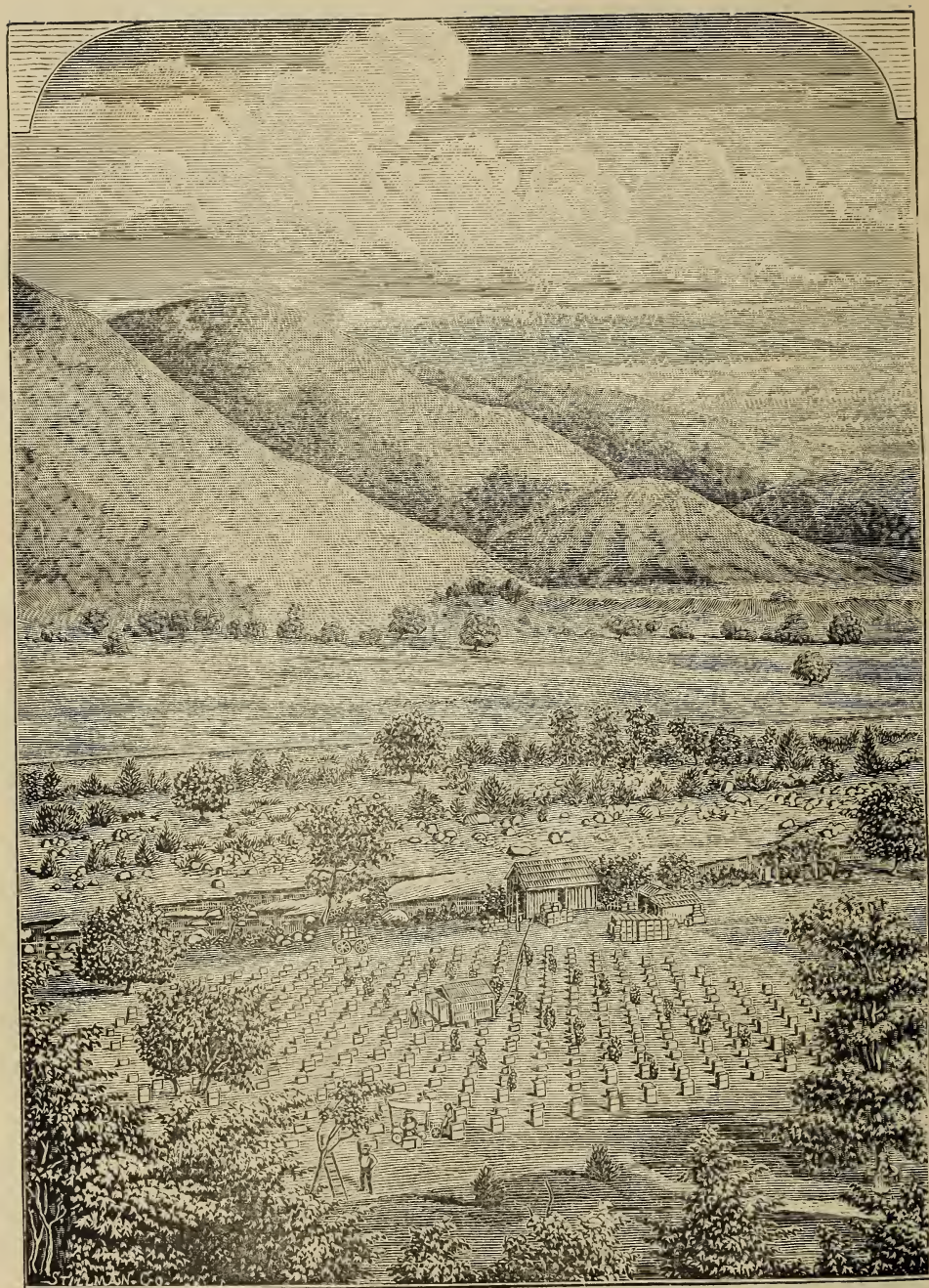
APIARY OF H. B. BOARDMAN, EAST TOWNSEND, OHIO ; SEE GLEANINGS, PAGE 882, VOL. XVII.



J. W. NIMAN'S EXHIBIT, SPRING MILL, O. ; SEE GLEANINGS, PAGE 122, VOL. XVII.



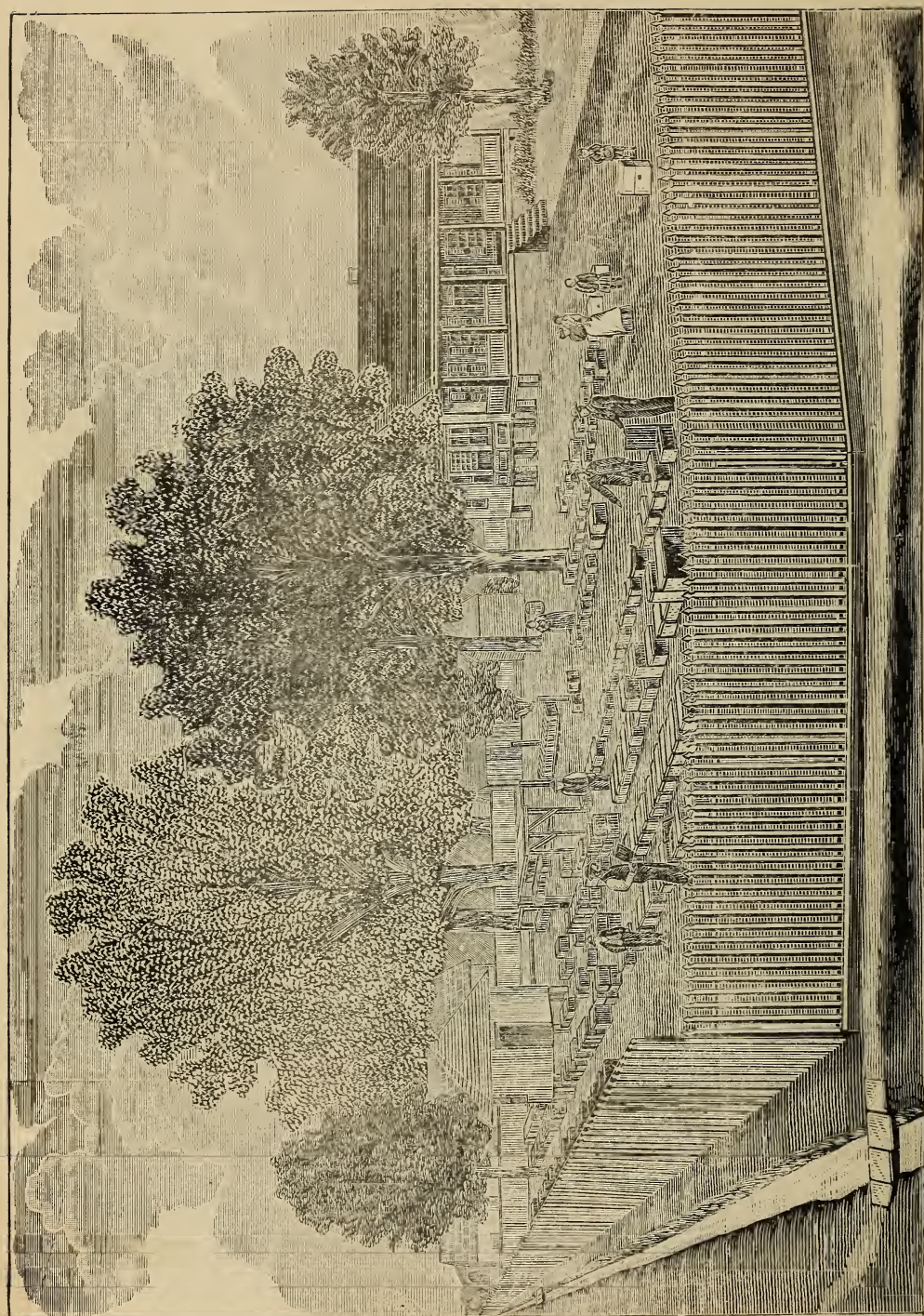
HEXAGONAL LAWN-TIVE APIARY OF NINETEEN HIVES, BELONGING TO N. H. ALLEN, KIRKWOOD, MO. ; SEE GLEANINGS, P. 373, VOL. VIII.



R. WILKIN'S HEXAGONAL APIARY, SAN BUENAVENTURA, CAL.; SEE GLEANINGS, P. 340, VOL. VII.



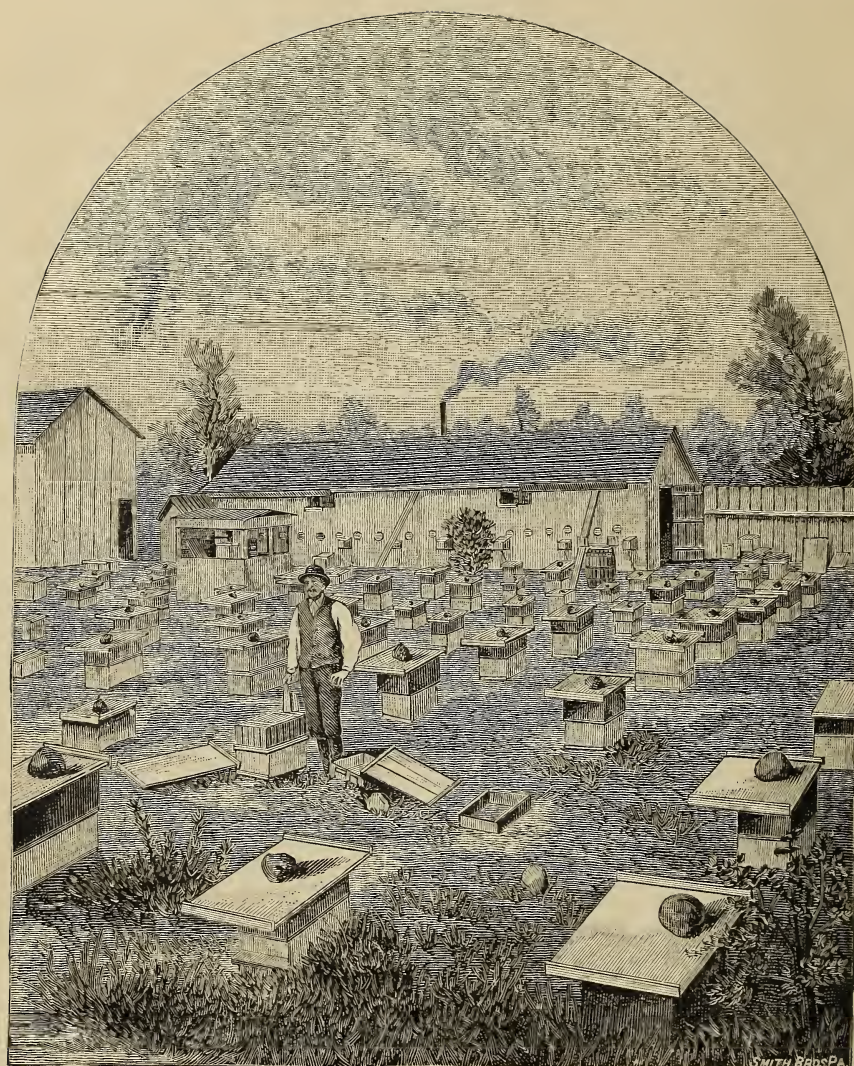
APIARY OF THE LATE WM. RAITT, BLAIRGOWRIE, SCOTLAND : SEE GLEANINGS, PAGE 179, VOL. IX.



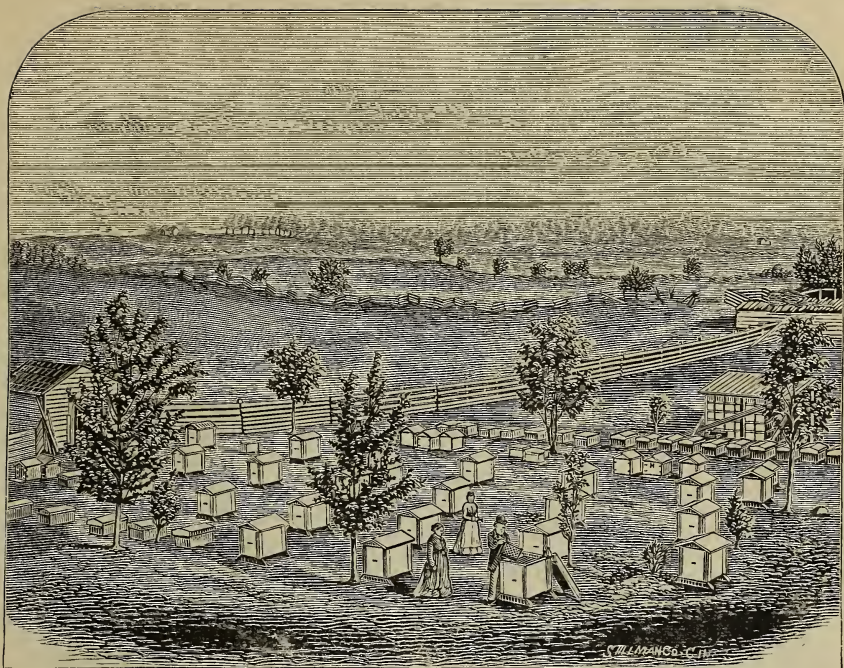
F. L. VIALON'S APIARY, FROM A PHOTOGRAPH TAKEN IN 1883; SEE GLEANINGS, PAGE 435, VOL. XI.



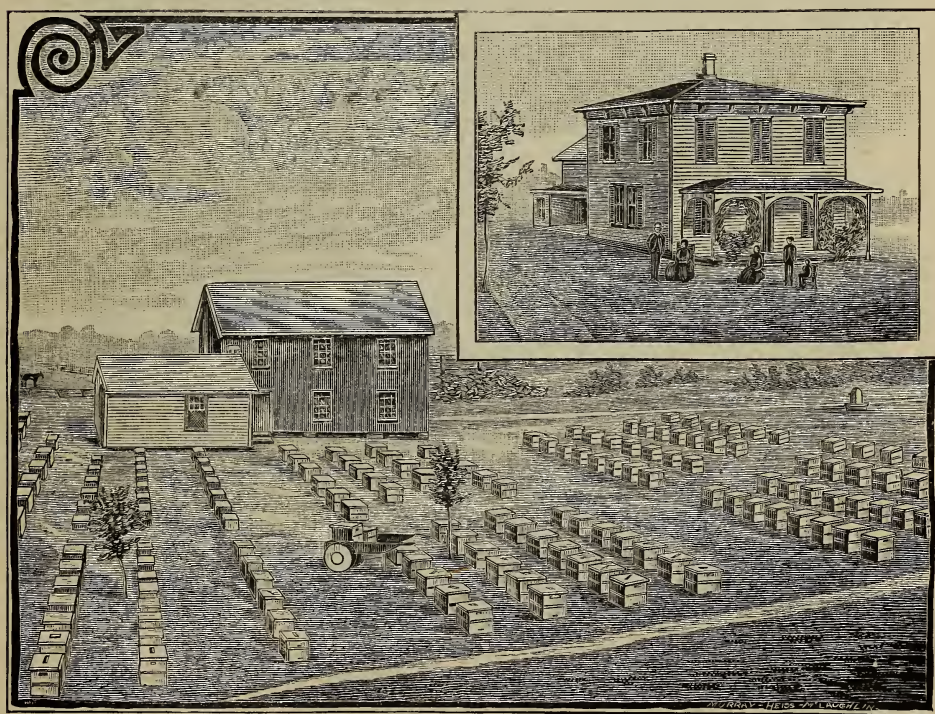
RAILROAD APIARY BELONGING TO M. A. WILLIAMS & CO., BERKSHIRE, N. Y.; SEE
GLEANINGS, PAGE 533, VOL. X.



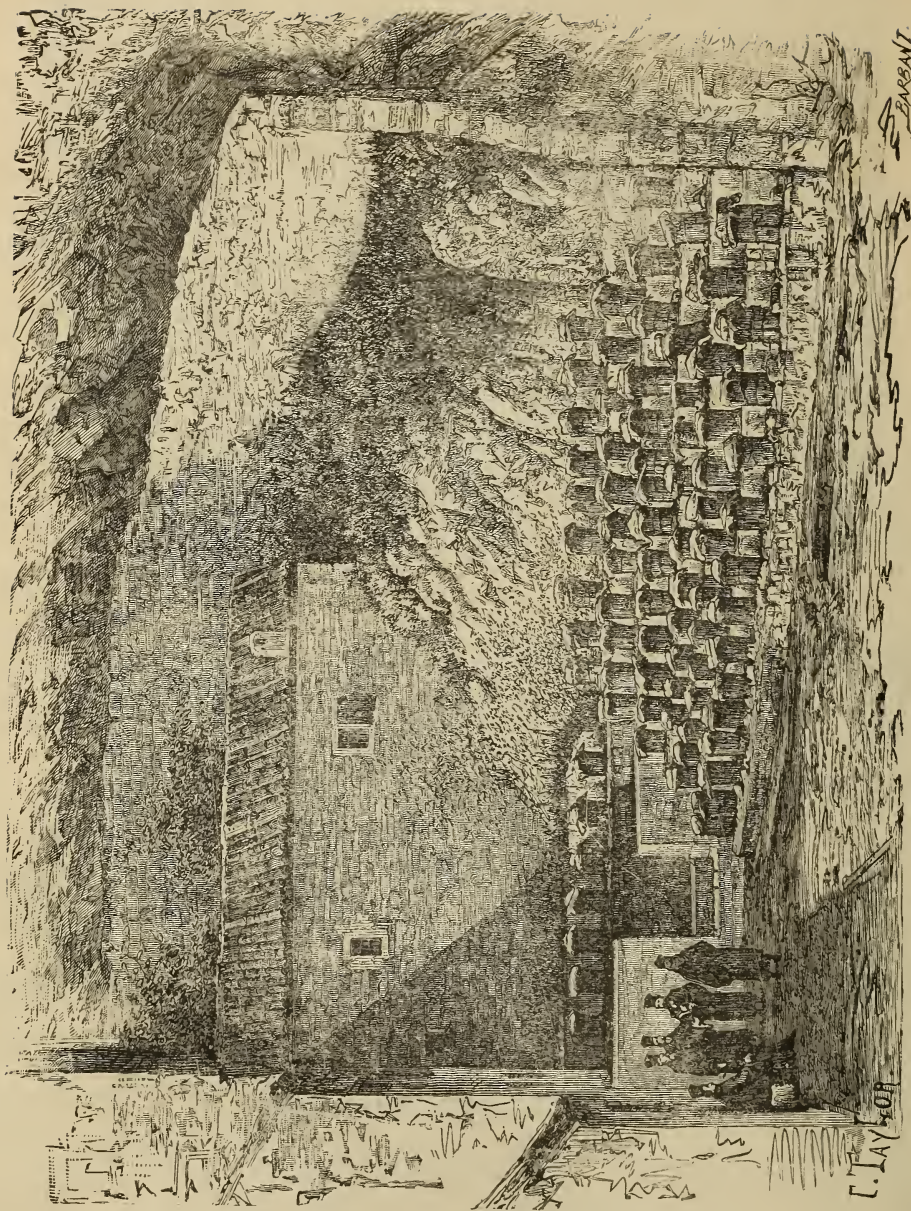
APIARY OF W. H. SHIRLEY, GLENWOOD, MICH.; SEE GLEANINGS, P. 561, VOL. XI.



CHAFF-HIVE APIARY OF J. H. TOWNLEY, TOMPKINS, MICH. ; SEE GLEANINGS, PAGE 194, VOL. VI.

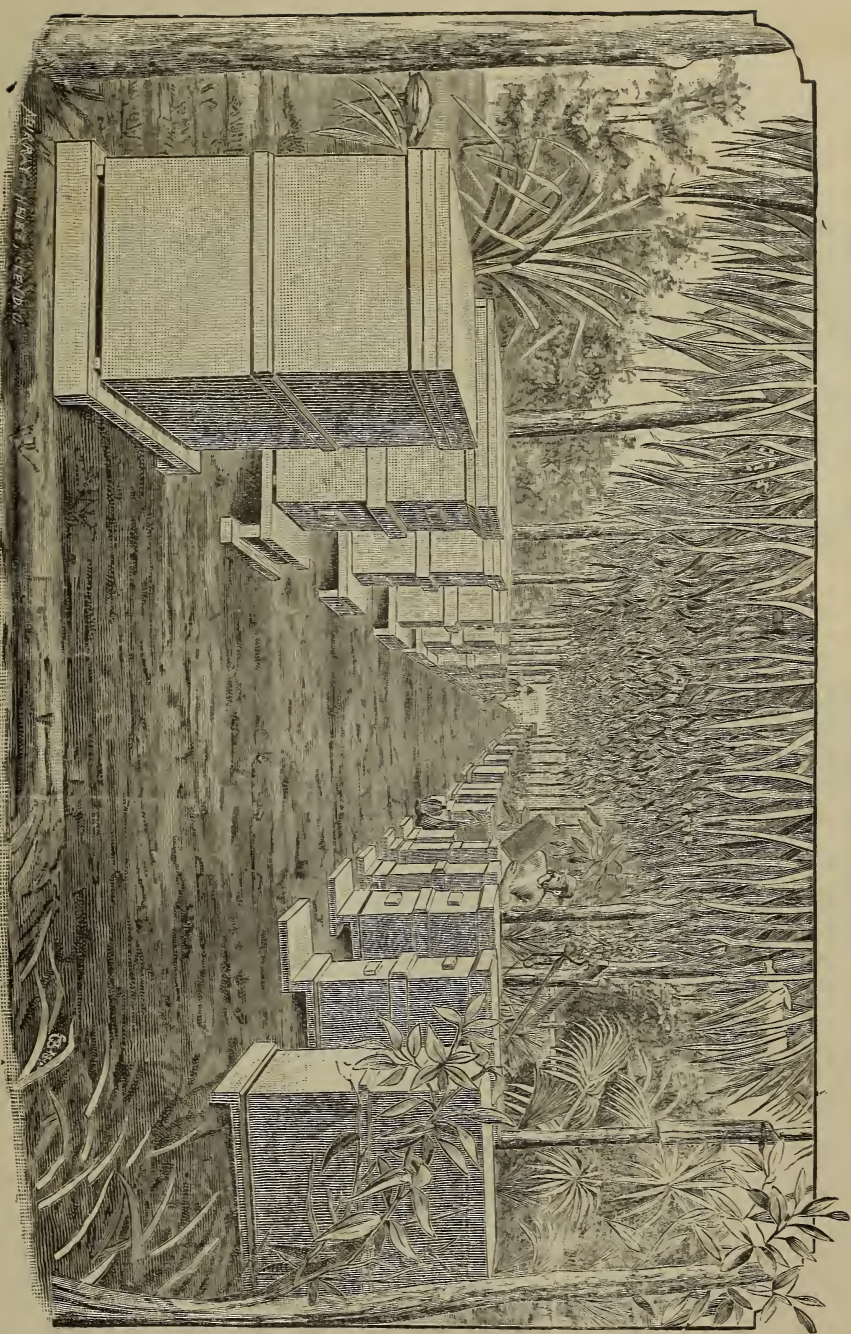


T. P. ANDREWS' APIARY, FARINA, ILL. ; SEE GLEANINGS, P. 14, VOL. XV.



AN APIARY IN CETTIGNE, MONTENEGRO, TURKEY ; SEE GLEANINGS, PAGE 595, VOL. X.

W. S. HAFF'S ATLANTIC, NEW SPAIN, FLORIDA; SEE GLEANINGS, P. 534, VOL. XII.





J. H. MARTIN'S APIARY, HARTFORD, N. Y.; SEE GLEANINGS, P. 424, VOL. VIII.



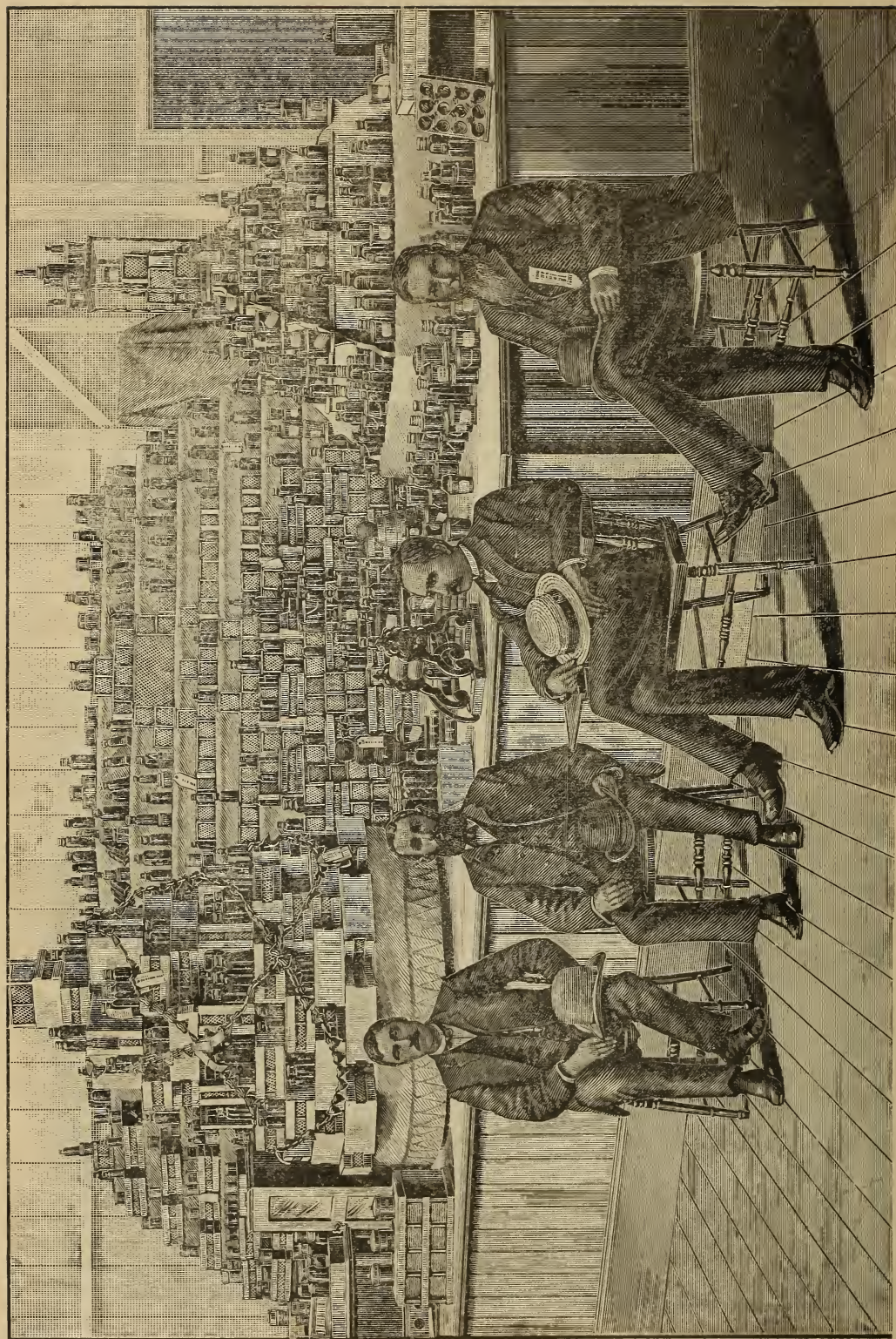
APIARIST AT WORK AT THE HOME OF THE HONEY-BEES; SEE FRONTISPIECE; ALSO GLEANINGS, PAGE 30, VOL. XV.



J. ARCHER'S BEE-RANCHE. SANTA BARBARA, CAL.; SEE GLEANINGS, P. 113, VOL. VI.



O. M. BLANTON'S APIARY, GREENVILLE, MISS.; SEE GLEANINGS, PAGE 341, VOL. XIII.



HONEY-EXHIBIT AT THE TRI-STATE FAIR IN 1887, AT TOLEDO, O., WITH DR. A. B. MASON AND W. Z. HUTCHINSON IN THE FOREGROUND AT THE RIGHT; SEE GLEANINGS, PAGE 432, VOL. XVI.

Sturwolds' Show-Case

FOR THE PROTECTION AND DISPLAY OF HONEY.

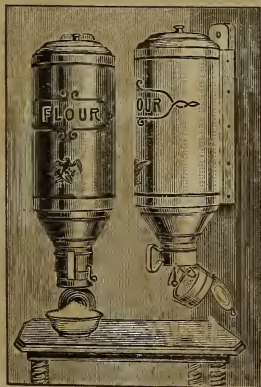


In well-equipped retail stores you will find many goods displayed in show-cases. This is because, from their nature they are liable to damage from dust, exposure, and frequent handling. What is more worthy a place under glass than our honey? By adding to its attractiveness it calls the attention of more people to it, and thus increases its sale. We have just made a new lot of cases, similar to the one shown above. We have used chestnut instead of walnut, and have improved the construction of the case so as to make it stronger, lighter, and simpler. To save transportation charges we can finish these all up and then take out the four corner standards and ship "knocked down" and securely boxed. They will thus go as first-class freight, while put up they charge three times first-class rates by freight. By express there would be no difference. Price of the case, put up with glass in, or boxed separately, or knocked down and boxed any of the three ways, will be the same—\$4.00. With name and address on the front glass, \$4.50.

A. I. ROOT, Medina, Ohio.

TYLER'S FLOUR-RECEPTACLE

A MUCH-NEEDED HOUSEHOLD CONVENIENCE.



This is the most convenient arrangement for flour that we have ever seen. It holds just a 49-lb. sack of flour. It is to be hung on the wall just above your table. When you want some flour simply place your pan under it, open the lid on the bottom and turn the crank and you get your flour already sifted. It is simple, neat, and effective, and not expensive either. Price \$2.75 each, crated ready for shipment, or given

free for 8 subscribers, with \$8.00.

A. I. ROOT, Medina, O.

LITHOGRAPH LABELS

In 12 Colors, at \$2.00 per 1000.

The 12 colors are all on each label. They are oblong in shape, measuring $2\frac{1}{4} \times 2\frac{3}{4}$. They are about the nicest labels we ever saw for glass tumblers, pails, and small packages of honey. We will mail a sample, inclosed in our label catalogue, free on application, and will furnish them postpaid at the following prices: 5 cts. for 10; 35 cts. for 100; \$1.20 for 500; \$2.00 for 1000. **A. I. ROOT, Medina, O.**

KIND WORDS FROM OUR CUSTOMERS.

I unpacked the barrel and crate to-day, and found every thing in place. Your work fits, to a gnat's heel. The freight for both was only 67 cts., which strikes me as very moderate. By mixing up the Dovetail and Simplicity, I can make a hive to suit myself at least. **A. T. GOLDSBOROUGH.**

Washington, D. C., Dec. 5.

Last spring I sent to you for "First Steps for Little Feet," as a birthday present to our youngest son. You ought to have seen that happy face. He has read it through several times. Please send me the "Story of the Bible." It is a birthday present to our oldest son. He will be 16 the 4th of August. **A. SHIFFLER.**

Roseland, Neb., July 17, 1889.

THAT DOLLAR QUEEN, AND HOW SHE EXCELS ALL OTHERS.

That dollar queen I got of you last year is producing the best workers I have. She and her daughters gave me 140 lbs. of extracted honey per colony; the rest of my bees averaged 80 lbs. per colony. They seem to be always at work when the rest keep at home. **F. H. THIELE.**

John's Pass, Fla., Nov. 4, 1889.

THAT QUEEN TO OREGON, IN A BENTON CAGE.

The untested queen sent me was received Oct. 1, just seven days en route. She was a beauty, and just as smart as a cricket. I introduced her without much trouble; I fed a little for a night or two, to stimulate laying. On the 21st she had brood in all stages, and yesterday I noticed a fine lot of young Italians out taking a play; so you see I am well pleased with my queen. **A. A. MORRILL.**

Glenwood, Ore., Nov. 15, 1889.

LETTER FROM MINNIE CHADDOCK.

Dear Friend:—We received a card last week stating that there were five dollars due us for our dear mother's writing, and that you would send GLEANINGS this year if we would accept. There is no "if" in the way; we accept heartily—would be lonesome without it. My brother Irving will take charge of the bees; and as he has had very little experience, will need GLEANINGS very much. Thank you for all your kindness to us.

Vermont, Ill., Dec. 10. **MINNIE M. CHADDOCK.**

PLEASED.

We owe you our sincere thanks, and know of no better way of expressing ourselves than to tell you how we have succeeded in the bee-business by following your directions in the A B C of Bee Culture, and using your style of hive, the Simplicity. Last spring we bought two colonies of bees in American hives, for which we paid \$6.00. In July I found a bee-tree, and saved the bees. I transferred them from the tree into a nice clean Simplicity hive, and they filled the lower story full, and made 50 lbs. of surplus honey. We have increased from the two old colonies to eight in all. Three of the new ones have two swarms in each hive. That is how they did in the way of swarming. Now as to honey: Every colony has the lower story of its hive full of honey, and all are in fine shape for going into the winter. They made, of surplus honey, 200 lbs. in one-pound sections. All the above was done with two colonies, with the aid of one more after the first of July. We owe our success to you for the good advice you give us in the A B C book, for which we tender our sincere thanks. **JAMESPORT, Mo., Dec. 5, 1889.**

C. K. GWINN.

A No. 1 EXTRACTED HONEY, CHEAP.

Send for New Prices.

JAMES HEDDON, DOWAGIAC, MICH.

FOR SALE.

A well-established apiary business, located in the best section of Iowa. Established ten years. Good trade. Building located on main street; for \$500.00. A bargain. Also 50 stands of bees, in good "L." hives, at \$4.00 per stand. Reason for selling is age, and other matters requiring my attention.

E. W. COE, Clarence, Cedar Co., Iowa.

ODD BUT TRUE.

Send me the names of 10 regular subscribers to the American Agriculturist, or Ladies' Home Journal, and I will give you next season your choice of the following: 1 untested Italian queen, 13 Laced Wyandotte eggs, 13 B. Leghorn eggs, or 10 S. S. Hamburg eggs. All I want is the names of 10 persons who take either of the papers. Write for catalogue of nearly 2000 papers at reduced rates.

C. M. GOODSPEED, Thorn Hill, N. Y.

In responding to this advertisement mention GLEANINGS.

Save 10 Per Cent.

SAVE TEN PER CENT AND ORDER YOUR SUPPLIES THIS MONTH.

We carry a complete stock of Sections, Hives, Smokers, etc. Illustrated catalogue for your name on a postal card.

R. B. LEAHY & CO.,

23-1db

Higginsville, Mo.

In responding to this advertisement mention GLEANINGS.

LOOK HERE!

Bee-Keepers and Fruit-Growers, before you order your supplies for 1890, send for my catalogue and price list of **Bee-Keepers' Supplies and Strawberry Plants**. Twenty-five approved varieties grown for this season's trade. Prices reasonable. **Bees and Queens** for sale; \$1.00 queens a specialty. Address **F. W. LAMB**, 24-23db (Box 106.) **Somerville, Butler Co., Ohio.**

LIGHT BRAHMAS, Felch strain, only \$3 to \$4 per trio, if ordered now. Also a few W. P. Rocks to spare. Eggs in season from five leading breeds. Circular free.

S. P. YODER, E. Lewistown, Mah. Co., Ohio.

A Four-Color Label for Only 75 Cts. Per Thousand!

Just think of it! we can furnish you a very neat four-color label, with your name and address, with the choice of having either "comb" or "extracted" before the word "honey," for only 75 cts. per thousand; 50 cts. per 500, or 30 cts. for 250, postpaid. The size of the label is 2½ x 1 inch—just right to go round the neck of a bottle, to put on a section, or to adorn the front of a honey-tumbler. Send for our special label catalogue for samples of this and many other pretty designs in label work.

A. I. ROOT, Medina, Ohio.

WANTED.—For sale or exchange, good small farm with apiary. Fine honey country. Box 65, Antherst, Va.

WANTED.—To contract with bee-keepers using 5000 and over sections—to supply them at let-live prices. C. A. GRAVES, Birmingham, O. 24-27

FOR SALE at a sacrifice, 120 stands hybrid and Italian bees, on L. frames: crop of '89, 100 lbs. per colony. 24-1d B. A. RAPP, Chillicothe, Mo.

Wants or Exchange Department.

Notices will be inserted under this head at one-half our usual rates. All ad's intended for this department must not exceed 6 lines, and you must say you want your ad. in this department, or we will not be responsible for any error. You can have the notice as many lines as you please; but all over five lines will cost you according to our regular rates. This department is intended only for bona-fide exchanges. Exchanges for cash or for price lists, or notices offering articles for sale can not be inserted under this head. For such our regular rates of 20 cts. a line will be charged, and they will be put with the regular advertisements.

WANTED.—To exchange honey for beeswax. We will take beeswax in exchange for honey in any quantity. Will give three pounds for one. Write for particulars. CHAS. DADANT & SON, 18tfdb Hamilton, Hancock Co., Ill.

WANTED.—To exchange 200 colonies of bees, 2 foot-power saws, and one foundation-mill and tanks, for any thing useful on plantation. 2tfdb ANTHONY OPP, Helena, Ark.

WANTED.—To exchange Japanese buckwheat at 75c per bushel, or No. 1 sections, for extracted honey. W. D. SOPER, Jackson, Mich. 2tfdb

WANTED.—To exchange a fine-blooded stallion for Italian bees. Will take a quantity of sections and foundation. A bargain for somebody. J. H. JOHNSTON, Leclair, Iowa.

WANTED.—To exchange religious reading-matter FREE to ALL who will send their address to Box 1516, Fresno City, Cal.

WANTED.—To exchange a Given Press, L size, in good shape, for first-class photographic outfit, or offers. 24-1d C. A. GRAVES, Birmingham, O.

WANTED.—To exchange Simplicity hives complete, for comb and extracted honey, for saws and groovers to make brood and wide-frames, or offers. E. J. SHAY, Thornton, Taylor Co., W. Va. 24tfdb

WANTED.—To exchange 1-piece sections and bee-hives for extra'd white clover or basswood honey or beeswax. J. M. KINZIE, 24tfdb Rochester, Oakland Co., Mich.

WANTED.—Situation. A young married man of 26 years, without children, wishes a situation with a good Christian bee-man to work on bees and do light farm work. A supply-dealer who makes his own supplies preferred, as I have had 10 years' experience with wood-working machinery. 24d W. H. DICKINSON, Deep River, Conn.

WANTED.—To exchange corn-sheller, cost \$75; fence loom, cost \$150; very low, used but little, for bee-supplies, or offers. Write for particulars. Address 24d THOMAS & KISSEL, Horatio, Darke Co., O.

WANTED.—Extracted honey, in exchange for printing, seeds, plants, etc. Write. CHRISTIAN WECKESSER, Marshallville, O.

WANTED.—A bee-man for the season of 1890. FILMORE COLE, Lima, O.

WANTED.—To exchange a sample copy of the South Florida Home for your name on a postal card. Address SOUTH FLORIDA HOME, 24d Charlotte Harbor, Fla.

WANTED.—To exchange bees, hives, frames, or foundation, for honey. Send for particulars. F. A. DAYTON, Bradford, Ia.